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SALVAGE AS BETWEEN VESSELS AND AIRCRAFT*

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The appearance of increasing numbers of large, able and costly flying boats on the sea routes of the world will inevitably lead to an increase in the number of instances where persons in aircraft and in vessels lend assistance to distressed aircraft and ships. There are likely to be important instances of salvage services rendered to aircraft and their cargoes by persons along the coasts. There is little risk in prophesying that the nearer future will produce a substantial number of cases of salvage of aircraft and their contents by the agency of other aircraft and of vessels, and a fair number of salvage services to distressed vessels and vessel cargoes in which flying boats will play a part. American flying boats are particularly active, numerous, valuable and successful on the long sea and coastal routes; and the American interest in a suitable statement of the law is very great. The lead in the matter, however, has been assumed by Continental experts, and two efforts by American experts to influence the course of events have not been sympathetically received. The American views have been belatedly expressed; it is regrettable that the American participation in the work of the international experts was not initiated at an earlier date.[1] The object, however, is to obtain the best possible statement of the law

* A discussion and analysis of the 1936 PRELIMINARY DRAFT OF A CONVENTION ENTITLED FOR THE UNIFICATION OF CERTAIN RULES RELATING TO ASSISTANCE AND SALVAGE OF AIRCRAFT OR BY AIRCRAFT AT SEA (C.I.T.E.J.A. DOCUMENT 319).

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1. The C.I.T.E.J.A. was organized in 1926; the United States did not join the organization, appropriate funds and send delegates to participate in its discussion meetings until September, 1935. An observer attended several meetings before that time. No American has ever been a President of a Commission or a Reporter on any of the subjects under study.

to be applied, and a fair criticism is never too late. The work of the experts and even of the diplomats is preliminary; the final object is the acceptance of the text as domestic and international law. The following comments are submitted with a full recognition of the value of the work which has been done, and with genuine regret that the matter has progressed to a point where it has been thought that discussion of fundamental points had been exhausted.[2] It is believed that the following considerations demonstrate that there is honest need of further discussion.

Salvage is a principle peculiar to maritime law which appears to be suitable for aviation over oceans, seas, lakes, rivers and other navigable waters. The principle, briefly stated, is that volunteers who assist in saving ships and their cargoes and freights, and incidentally human lives, from peril of loss in navigable waters, are entitled as a matter of law to a reasonable allowance, out of the values saved, as compensation for their own personal risk, their skill, courage, quickness, their disbursements and their loss of the use of any property which they have devoted to the service.[3] The salvor has the usual secret maritime lien on the ship and cargo and freight saved, independently of possession. His award cannot exceed the value saved; in practice it rarely exceeds 50% and averages 5% to 20%. The award is fixed by the Court, there being no jury in Admiralty. The salvor's lien is not lost by the making of a salvage contract, provided the contract is on the terms "no cure, no pay"—that is, conditioned on success. If the owner or custodian of the property in peril refuses assistance, the Court usually denies salvage; but if the refusal is unreasonable, and the salvor nevertheless intervenes and produces a useful result, he may have an award. The salvage remedy is of special social usefulness as a check on the temptation to steal when a wreck has been abandoned.[4] It is readily evident that the principles of maritime salvage are wholly foreign to the common law and do not regulate the relations of persons and lost or abandoned property on land.[5]

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2. In C.I.T.E.J.A. Doc. 303, July 15, 1936, the Reporter in charge of this subject was led to state that "discussions of substance will not be resumed."

3. *Cf. Kennedy*, The Law of Civil Salvage, 2nd ed. (Note: the 3rd edition, 1936, has just been published); *Arnold W. Knauth*, "The Application of Salvage Principles to Aircraft," 36 Columbia L. R. 224 (1936); the 1910 Maritime Salvage Convention, 37 Stat. L. 1658; the 1912 Salvage Act, 37 Stat. L. 242, 46 U. S. Code 727-731.

4. *Cf.* Florida Wrecking and Salvage Rules, *Benedict* on Admiralty (5th ed.) (1926) Vol. 3, p. 1076. In October, 1936, the Spanish liner Cristobal Colon was stranded on Bermuda and abandoned on the reefs by her crew. Some weeks later, six persons who removed part of her equipment were prosecuted and convicted as thieves. A. P. despatch, Dec. 7, 1936.

5. *Cf.* "Finder's Right to Compensation for Finding Lost Goods," 25 C. J. 1140. As to Treasure Trove, cf. *Foster* v. *McNabb*, opinion of O'Dunne, J., Circuit Court No. 2 of Baltimore County (Docket No. 20345½A), affirmed by the Court of Appeals of Maryland, 179 Atl. 536 (1935).

The basic difficulty is the fact that salvage is traditionally limited to vessels and vessel cargoes and freight; hence an aircraft, not being a vessel[6] is not a subject of salvage, nor is its cargo. *Watson* v. *RCA-Victor Co.*, 50 Lloyds List Law Rep. 77, 1935 A. M. C. 1251. The British Parliament has reversed that decision and solved the British local difficulty rather simply by enacting that an aircraft is hereafter to be regarded as a vessel for salvage purposes.[7] If the American Congress were to enact a similar law, a suitable local result could be achieved. But the effect on private international law would still be distressingly complicated whenever a salvage service has been rendered by parties of different national allegiances on the high seas. The old confusion of maritime salvage laws brought about the general adoption of the Maritime Salvage Convention of 1910.[8] Confusion of air salvage laws seems bound to force an ultimate agreement on salvage of aircraft at sea. The leading American and British interest in overseas aviation already amply justifies a strong effort to bring about a suitable convention text at the present time.

The Citeja,[9] under the leadership of Professor Georges Ripert of France as Reporter and M. Wolterbeek-Müller of Holland as Chairman of the Third Commission, has been working on this salvage convention for several years.[10] On October 2, 1933, a text was prepared at a meeting in London. The Citeja thereupon consulted the Comité International Maritime, which set up a Sub-Committee "to formulate any views, suggestions and proposals they might deem advisable." The Sub-Committee met in Paris on April 29, 1934. No American was invited to attend; the two British members were unable to attend. The British Maritime Committee filed a report urging two of the criticisms which are still directed at the text. The Belgian, Italian, Dutch, Portuguese and Yugoslavian Maritime Law Associations sent memoranda with various suggestions. The Sub-Committee's report, together with the memoranda, was printed in March, 1935.[11] There was a good deal of

6. Air Commerce Act, section 7 A.
7. Air Navigation Act, 1936, 26 Geo. 5 & 1 Edw. 8, c. 44; 5th Schedule, amending section 11 of the Air Navigation Act, 1920.
8. 37 Stat. L., 1658.
9. A description of the organization and work of the C.I.T.E.J.A. will be found in 6 JOURNAL OF AIR LAW 84 (1935).
The "American Section" now has four members. The "American Advisory Committee," which has never met, consists of some twenty persons nominated, upon the invitation of the State Department, by various organizations interested in the development of private international air law. The Maritime Law Association is the only organization in this group which may be said to represent the shipping industry.
10. The convention has heretofore been entitled *Convention Relating to Assistance to and Salvage of Aircraft.* The present title reveals that the text also relates to salvage *by* aircraft, but does not adequately disclose that the text deals largely with the duties and obligations of vessels, shipmasters and shipowners.
11. Comité Maritime International (Antwerp), Bulletin 97.

discussion of the 1910 Salvage Convention, but, curiously, no mention at all of the Safety of Life at Sea Convention, London, 1929, which provides, in Article 45, very precise conditions for the regulation of the obligation to deviate from the ship's course in order to save life at sea. The report made two explicit criticisms and recommendations: that the salvor of goods should have a remedy only against the owners of the salved goods, and that the salvage remedy should be limited by the value of the goods saved and not by the value of the aircraft before the accident. Only the latter recommendation has been embodied in the present text.

There seems to be a general feeling that it is appropriate to apply maritime salvage principles to aircraft at sea. The Paris 1919 Convention, Article 32, and the Habana 1928 Convention, Article 26, both provide that, in the absence of special agreements, the salvage of aircraft lost at sea shall be governed by salvage principles. This is important, because there is a good deal of general hostility to the application of maritime doctrines to aviation. No text-writer or authority in the industry seems to have opposed the application of salvage principles. On the contrary, this has been strongly advocated.[12] And the English and Irish Parliaments have enacted specific laws for the purpose.[13]

It may probably be assumed that the industry, the underwriters, and the interested Governments are now in favor of applying maritime salvage principles to aviation over navigable waters by means of suitable domestic legislation and an international convention. The immediate question is whether the text[14] proposed by the Citeja at Berne in September, 1936, is suitable for the purpose.

Two questions are sharply presented: (1) whether the text is acceptable to the aviation industry and its underwriters: (2) whether it is acceptable to the Merchant Marine industry and its underwriters.

I. Is the CITEJA 1936 Salvage Text Acceptable to the Aviation Industry and Its Underwriters?

The following comments are submitted as an indication of the major points which would not appear to be acceptable to the aviation industry. The comments are presented in the order of the Articles

12. *Knauth, op. cit.*, 36 Col. L. R. 224.

13. English Act, 26 Geo. 5 & 1 Edw. 8, c. 44, Irish Act, No. 40 of 1936.

14. Text adopted by the International Technical Committee of Aerial Legal Experts during its Eleventh Session at Berne, Switzerland, in September, 1936. The original text is in French; the translation thereof, which appears in 8 Journal of Air Law 75 (1937) is the text hereinafter referred to.

commented upon, which does not indicate the order of their importance.

Article 2. Life Salvage

(1) *Aircraft Bound to Aid Persons at Sea.*

> Any person exercising the functions of commanding officer aboard an aircraft shall be bound to render assistance to any person who is at sea in danger of being lost, insofar as the aircraft can, without serious danger to itself, its crew, passengers or other persons, go to the scene with the possibility of rendering useful aid.

This binds all aircraft to go to an aircraft or vessel which sends out an S. O. S.

The purpose is sound. The 1910 Maritime Salvage Convention laid down the rule that assistance must be given to persons *found* at sea—*trouvé en mer.* (Art. 11.) Literally, these words—*trouvée en mer*—do not require a vessel to deviate from her course. The words have never been construed by a court. The memorandum of the British Maritime Committee (Bull. 97, p. 31) considers that they impose a broad general "duty to render assistance to persons who are in danger at sea." The Paris Sub-Committee (Bull. 97, p. 6) was "of the opinion that the obligation to assist persons who, at sea, are on board an aircraft in danger of being lost, is already laid upon ships' captains under Article 11 of the Brussels International Salvage Convention of 1910. * * * Article 11 is couched in general terms." The meaning of Article 11 has become largely academic, because the more complete Article 45 of the Safety at Sea Convention, London, 1929[15] has superseded it

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15. SAFETY OF LIFE AT SEA CONVENTION, LONDON, 1929.
ARTICLE 45.
49 U. S. Statutes at Large —.
Distress Messages. Procedure.

1. The master of a ship on receiving on his ship a wireless distress signal from any other ship, is bound to proceed with all speed to the assistance of the persons in distress, unless he is unable, or in the special circumstances of the case, considers it unreasonable or unnecessary to do so, or unless he is released under the provisions of paragraphs 3 and 4 of this Article.

2. The master of a ship in distress, after consultation, so far as may be possible, with the masters of the ships which answer his call for assistance, has the right to requisition such one or more of those ships as he considers best able to render assistance, and it shall be the duty of the master or masters of the ship or ships requisitioned to comply with the requisition by continuing to proceed with all speed to the assistance of the persons in distress.

3. A master shall be released from the obligation imposed by paragraph 1 of this Article as soon as he is informed by the master of the ship requisitioned, or, where more ships than one are requisitioned, all the masters of the ships requisitioned, that he or they are complying with the requisition.

4. A master shall be released from the obligation imposed by paragraph 1 of this Article, and, if his ship has been requisitioned, from the obligation imposed by paragraph 2 of this Article, if he is informed by a ship which has reached the persons in distress, that assistance is no longer necessary.

5. If a master of a ship, on receiving a wireless distress call from another ship, is unable, or in the special circumstances of the case considers it unreasonable or unnecessary to go to the assistance of that other ship, he must immediately inform the master of that other ship accordingly, and enter in his

almost everywhere. It is submitted that the purpose of Article 2 (1) and (2) would be best achieved by adopting the precise language of the Safety Convention 1929, Article 45, expanding it to include "aircraft commanders" and "aircraft" in each instance, thus promoting uniformity of law and text as far as possible.

The American Delegates at Berne, in compliance with resolutions passed by American maritime bodies, sought to obtain some statement of the limitations to be placed upon the duty to make search, but no further information was given, and the limits of the duty to search for occupants of fallen aircraft remain somewhat uncertain.

Article 3. Life Salvage Indemnity

(3) *Who Shall Pay Life Salvage?*

"The life salvage indemnity shall be paid by the operator of the aircraft assisted." This is a wholly novel provision in the law of human relations. Heretofore "life salvage" has been an unremunerated humane activity, except that in one situation, since 1894, life salvage has sometimes been payable out of the proceeds of property simultaneously saved from the same peril.[16] The purpose of those laws is obviously merely to rectify the unfair result produced when, after a wreck, Salvor A picks up the lifeboats with their human loads, without reward, while Salvor B tows the wreck into safe harbor and is well rewarded.[17] But when no property

log-book his reasons for failing to proceed to the assistance of the persons in distress.

6. The provisions of this Article do not prejudice the International Convention for the unification of certain rules with respect to Assistance and Salvage at Sea, signed at Brussels on the 23rd September, 1910, particularly the obligation to render assistance imposed by Article 11 of that convention.

Ratified by the President, July 7, 1936.

Effective for the United States November 7, 1936.

The 1929 Safety of Life at Sea Convention originated with the invitation of the British Government. It has been ratified or adhered to, and is now in effect in, the following countries:

Germany, Argentina, Australia, Belgium (and colonies), Brazil, Bulgaria, Canada, China, Danzig, Denmark (excluding overseas possessions), Egypt, Esthonia, United States of America, Finland, France (including colonies), Great Britain (including all crown colonies, territories under mandate and possessions), Hungary, Iceland, India, Irish Free State, Italy (and colonies), Japan (including Chosen (Korea), Taiwan (Formosa) and Kwantung), Netherlands (including colonies), New Zealand, Norway, Panama, Poland, Portugal (including colonies), Spain (including colonies), Sweden, Union of Soviet Socialist Republics.

16. (British) Merchant Shipping Act, 1894, sec. 544; (U. S.) Salvage Act, 1912, 37 Stat. 242; (International) Maritime Salvage Convention, 1910, Art. 9; 37 Stat. L. 1670. The 1910 Salvage Convention originated with the Comité Internationale Maritime. It has been ratified or adhered to, and is now in effect in, the following countries:

Germany, Austria (pre-war Empire), Belgium (and colonies), Brazil, Denmark (excluding overseas possessions), United States of America, France (and colonies), Great Britain (including the Dominions, the Irish Free State, and the pre-war colonies, but not Egypt), Greece, Hungary, Italy (including pre-war colonies), Japan (including Chosen (Korea) and Taiwan (Formosa), Mexico, Norway, Netherlands (excluding colonies), Portugal (including colonies), Rumania, Russia (pre-war Empire), Sweden.

17. The Shreveport, S. D. So. Car., 42 Fed. 2d, 524, 1930 A. M. C. 1310.

values are at stake, the saving of human life in peril on the waters is, as ever, the Golden Rule—do as you would be done by. The sailor who saves his brother-seaman today may himself be saved by another brother-seaman next year. It seems quite doubtful whether the aviation industry and its underwriters are really ready to detach themselves from this universal rule, and embark upon a positive policy which will require all owner-operators (exploitants) of all aircraft to pay for all maritime life-salvages of occupants of aircraft from henceforth forever.

The record of aviators callously left to drown does not substantiate the need of this unprecedented remedy. There are reasons for believing that the proposal, if squarely presented to the responsible heads of the Industry, would not meet with approval.

(4) (a) *Limit of Indemnity per Life Saved.*

> The said indemnity cannot exceed the sum of 125,000 francs per person saved and, if no persons have been saved, the sum total of 125,000 francs.

This was proposed by the Belgian memorandum in 1934; the amount is identical with that specified for passenger lives in the Warsaw Convention of 1929 relating to Air Carriers, and for injuries to third parties in the Rome Convention of 1933, relating to damage done by aircraft to persons and property on the surface of the earth. The Belgians proposed it as a *minimum* value to be available if the aircraft were worth less; but in its present form it is a *maximum* even if the aircraft is worth more.

The par of exchange is the French gold franc of 1935, Art. 3 (4-d). At present values, the equivalents are $8,300 U. S. or £1,670 Sterling.

It is certainly wise to fix an over-all maximum. Opinions will always differ as to what the maximum should be, and criticism of any given figure can only proceed from a consideration of actual examples. The extreme examples of the present day are:

Lowest: An airplane with one occupant; maximum possible life-salvage indemnity award, $8,300.

Largest: The Zeppelin Hindenburg, with 100 occupants; maximum possible life-salvage indemnity award, $8,300,000. Article 3 (4) (c) was added in order to limit this gigantic sum to $132,800.

(4) (bb) *Additional Limitations of Indemnity—Aircraft Operators.*

> And the aircraft operator shall not be liable beyond the value of the aircraft, such value being determined on the basis of 250

> francs per kilogram of weight of the aircraft, by weight being understood the weight with the total maximum load as shown on the certificate of airworthiness or on any other official document.

This value works out at about $7.50 per lb., or $7,500 for a small two-seater airplane weighing 1,000 lbs. This results in quite a large liability fund for larger aircraft, such as are likely to go to sea. A 25-ton airplane would have to provide a fund up to $375,000. The British memorandum of 1934 proposed adding the pending freight to the fund, but this has not been done; the fund seems adequate in amount without adding the freight.

In the 1933 draft, the aircraft owner was allowed to apply the aircraft limitation value to the aggregate of his salvage liabilities: the aircraft itself, the lives, and the cargo. This was vigorously condemned by the four leading Maritime Law Associations—Belgian, British, Dutch and Italian—in their memoranda. The Belgians put it tersely:

> "We fail to understand why the owners of a cargo of gold in bullion, the whole of which has been salved, should have the right to limit the salvage indemnity due by them to the value of the aircraft before the accident."

The provision is now retained only for life-salvage. But there are still difficulties, which are discussed under Article 4 (5).

The American delegates at Berne stated that "the term *total maximum load* has no special significance in the air regulations of the United States," and recommended further study of its meaning. The record of the proceedings leaves it doubtful whether any further study is under contemplation. The Reporter in charge of the subject has stated: "At its session of The Hague in 1935, the Citeja . . . accepted the draft which was published in the minutes. . . . While such acceptance has been considered as exhausting discussion on the subject, the Committee decided that it would not immediately transmit to the French government the text which it had just adopted. . . . The study of this convention to be made by the Citeja in its Berne session will therefore be the final examination, it being understood that discussions of substance will not be resumed . . . ." To which position, the American delegates filed a general *caveat.*

(4) (c) *Aggregate Limit of Liability for Life Salvage.*

The aggregate is limited to two million francs, or $132,800. In practice, this means that the full possible award of $8,300 per

life saved is only available in situations involving the saving of not over sixteen lives. This limit was added to the text after the American delegates to the February, 1936 meetings, had pointed out the huge sums which might have to be paid in an accident like that of the Macon.[18]

The American delegates on that occasion also stated six points as to which shipping interests desired clarifications; but these were not formally received because not on the agenda, and the subsequent course of the matter indicates that no weight has been attached to them.

It seems reasonably clear that the over-all limit applies only to the life-salvage. The omission of the words *owner* and *armateur* seems to indicate that this over-all limit is granted only to aircraft operators. There is no explanation why this limit is not equally granted to owners and armateurs of ships.

(6) *Operator's (Exploitant's) Liability Where Use of Aircraft Is Unauthorized.*

The Citeja has consistently grappled with the problem of the *Schwartzfahrer*—the law-evader or "bootlegger" who engages in any human activity without the licenses, permits or certificates which the law happens to require. The problem is familiar in the field of automobile law: Shall the owner of an automobile be held liable for damage done by his car in the hands of a thief, or even a mere unauthorized person? A suitable formula was evolved in the drafting of the Rome Convention;[19] and this formula has subsequently been used in the drafting of the other Citeja Conventions.[20] This formula requires the exploitant of an aircraft to "take the necessary measures to avoid wrongful use of his aircraft". Evidently aircraft have to be kept always under lock and key, and under guard of responsible watchmen. This squints towards the doctrine of the dangerous instrumentality. The formula also extends the benefits of limited liability to the *Schwartzfahrer;* it may be logically and socially questioned why a wrongful aviator should be given the benefits of the limited liability of the rightful aviator.

There is no provision about the unauthorized use of vessels. Yet ships, both small and large, can be and often are used without the authority of their owners. In the past few months, many Spanish vessels have been at sea without the consent or authority of their

18. C.I.T.E.J.A. Doc. No. 291 (tabulation), Feb., 1936.
19. Rome Convention, Article 5. Not yet effective.
20. Salvage Convention, Article 4 (6); Collision Convention, Article 3 (3). Neither is yet in effect.

owners. If it is fair to exonerate the non-consenting owner of an aircraft, it is not equally fair to exonerate the non-consenting owner of a ship?

Article 4. Property Salvage

(1) *Who shall Receive Salvage.*

> In a case of assistance and salvage of aircraft or of property on board aircraft, a ship or aircraft which shall have rendered assistance shall be entitled to remuneration to be determined on the following basis:

The corresponding passage of the 1910 convention merely provides that "the remuneration is fixed by the court, according to the circumstances of each case, on the basis of the following considerations."

Basis of Remuneration.

> (a) First, the measure of success obtained, the efforts and the deserts of the salvors, the danger run by the salved aircraft, by its passengers, crew and cargo and by the salving aircraft or vessel, the time expended, the expenses incurred and losses suffered, and the risks of liability and other risks run by the salvors, and also the value of the property exposed to such risks, due regard being had, the case arising, to the special adaptation of the salvor's equipment;
>
> (b) Second, the value of the property salved.

The foregoing rule is applied to salvages *of* ships *by* aircraft by subsection (5).

The foregoing text is an exact duplication of Article 8 of the 1910 Maritime Salvage Convention with *one important omission*—it omits (at the point indicated by an asterisk) the words "and by the salvors" (in the French original *"et par les sauveteurs"*). In other words, "the personal danger run * by the salvors" (in the French text, *"le danger couru . . . par les sauveteurs"*) is no longer to be considered as an element in fixing a salvage award. This seems to mean that there is to be no further reward to individuals for personal courage. That plainly proposes a fundamental break with the historic conception of salvage.

It is, of course, true that the modern predominance of steamers and motorships, and the organization of professional salvage companies, has had the result that Lord Justice KENNEDY's "exceptional allowance" of salvage to shipowners has become a rather general rule. The crew's share nowadays is seldom over a quarter or a third. In the past fifteen years only one case has been noted where a crew—that of a small tugboat—exhibiting extraordinary

personal heroism, has been given a share of over 50% of a salvage award. Perhaps the time has come to shift the whole basis of salvage from the human salvor plus his employer's ship or other equipment, to the incorporated shipowner plus his employees. If so, the same change should be made at once in the 1910 Maritime Salvage Convention, for the rule, whichever it is, should and indeed must be uniform everywhere.

No evidence or argument has been presented for changing the rule of the 1910 Convention. No government has asked for a new conference to revise that convention. Hence the old rule, which now prevails almost everywhere, should not be changed.

The American delegates at Berne directed attention to these comments, which have been endorsed by resolutions of various American maritime organizations, but the text was accepted without alteration.

(2) *Simultaneous Salvage of Life and Property.*

Example: Ship A picks up 20 persons from an aircraft. Ship B picks up the aircraft cargo consisting of gold, money, stocks, bonds, motion picture films, and saves one of the engines. Ship A's expenses are $10,000; ship B's expenses are $5,000. These expenses are to be "equitably allocated." There should be no difficulty in doing so, if there is not money enough to go around. Subsection (5) of this Article 4 seems to apply the same rule, *mutatis mutandis*, when aircraft (alone or with vessels) accomplish a salvage of maritime property.

Article 5. Combined Salvage of Life and Property

This provision is analogous to the 1910 Convention, Article 9 (par. 2). But under the 1910 convention the life-salvor's *entire* recovery is out of the property salvage. Whereas under this aviation convention, the life-salvor would first recover his out-of-pocket from the owner and/or operator of the wrecked ship or aircraft, and then come in on the property salvage for an extra award, based on his courage, skill, speed, and success. To that extent the new convention goes beyond the existing law.[20a] The new proposal is not unattractive. The need of revising the present salvage law has been repeatedly urged by laymen since the *Vestris* disaster in 1928, where the facts suggested that the Captain may have delayed his S. O. S. in the hope of obtaining the needed assistance from a sister-ship.

20a. See comment on Article 3 (1), *infra*.

Article 7. Who Shall Pay Salvage Awards

(1) *Remuneration.*

The remuneration due for the operations of assistance or salvage shall be payable by the operator of the assisted aircraft or the owner or the armateur of the assisted ship.

(2) *Recourse of Aircraft Operators.*

The operator of the aircraft shall have a recourse against the owners of goods for such part of the remuneration as pertains to assistance and salvage of such goods.

This Article presents the most serious difficulties. The present law is that a carrier—a bailee of goods for carriage—is bound to deliver them safely at the destination *unless*

(1) prevented by force majeure or Act of God;

(2) prevented by enemies of the State;

(3) prevented by the inherent vice or character of faulty packing of the goods themselves;

(4) excused by the terms of the contract or by the local or international legislation, such as the Warsaw Convention, the 1919 Paris Convention and the 1928 Habana Convention, whose provisions as to salvage have already been mentioned.

What then is the carrier's duty when an accident happens and the aircraft cargo is salvaged from the sea by a stranger? We will assume that the accident has happened under circumstances which excuse the air-carrier from liability. Let us say that the aircraft has been shot down by an enemy of the State, and forced to land in the sea. The situation will then be either

(1) that the aircraft can be repaired and complete the journey; or,

(2) that the aircraft is beyond repair and is an actual or constructive total loss.

If (1) is the case, the aircraft will be in a position to deliver the cargo subject to the salvor's claim or lien; the consignee will have to pay the salvage in order to obtain his goods. But how is the carrier to get the goods out of the possession of the salvor? Shall it be on maritime or on terrene principles?

Especially in situation (2) must we decide whether to adopt the maritime principle that "the goods are bound to the (ship) (aircraft) and the (ship) (aircraft) is bound to the goods"; or the railroad principle that the *carrier* is bound generally to the goods,

and that the particular train or car is a matter of absolute indifference? This question seems never to have been publicly discussed in this connection. It is, however, fundamental. If we accept the maritime principle, then the total loss of the aircraft terminates the venture then and there, so that the carrier need do no more than notify the cargo owners, shippers and consignees, where their goods are, so that they can go and get them and treat directly with the salvors.[21] If we accept the railroad principle, then the loss of the particular aircraft is of no consequence; the air-carrier must send another aircraft to the scene, pick up the cargo, and carry it to the destination. And thus necessarily, under the railroad rule, the air carrier must treat with the maritime salvor, for he cannot otherwise obtain possession of the cargo in order to carry it forward.

The difficulty of carrying a single principle, like salvage, from one field of law into another, without the matrix of other maritime principles in which it is imbedded, is hereby neatly illustrated. For a railroad, after an accident, never has to treat with salvors. It never has to pay legal charges to volunteers who help pull goods out of the burning wreck of the train. It can pick up the packages with its own employees, dismiss the volunteers with appropriate thanks, load the goods into a new train, and proceed to the destination.

But ships and aircraft at sea cannot proceed so simply. They do not control their right of way with organizations of employees. They must pay off the volunteer helpers in court with salvage money.

There is no competitive reason for burdening aviation, on either land or sea, with greater obligations than those imposed upon the competing rail and water carriers. The sense of the matter therefore is to deal with salvage on land under railroad law, and salvage on navigable water under maritime law. It would seem to be perfectly feasible to apply the railroad carrier law whenever aviation has accidents on land, and the maritime rule—including the principle that the aircraft is bound to the cargo and the cargo to the aircraft—whenever the accident occurs on the water. In other words, the maritime principles necessary to work out the maritime salvage principle can be imported to the extent necessary to apply the maritime salvage principle itself.

If this solution is accepted, Article 7 (1) and (2) should be

21. Scutton on Charter Parties and Bills of Lading (13th ed., 1931) pp 404-406 and cases there stated. *Furness* v. *Randall*, 124 Md. 101, 91 Atl. 797. Williston on Contracts (1920) sec. 1948, note 23. *Cf.* the Eliza Lines (1905) 199 U. S. 119, 125.

abandoned, and in its place should be stated the maritime principle that the goods-owner, being notified of the abandonment of the voyage, goes and attends to his own salvage charges. If the goods are, as usual, insured, this involves no hardship, as the cargo insurance companies are well-organized to attend to such situations all over the world.

It appears that there are some decisions in Italy holding that the entire salvage award in respect of both ship and cargo should be decreed against the shipmaster alone.[22] In that case, the captain summoned the salvors, and was condemned in his character as bailee of both ship and cargo. The accompanying "observations" suggest that this is the "almost invariable form of proceeding," and cite instances in Egypt, Algiers, Holland and Belgium. Those are jurisdictions where the right *in rem* is not applied as it is in the English and American Admiralty. The explanation of these court rulings appear to lie either in the fact that the master voluntarily contracted for the salvage service, thus assuming primary responsibility, or in considerations of the forms of procedure, the venture being personified in the master rather than as with us in the ship. It is interesting to note that the memoranda submitted by the various National Maritime Law Associations in 1934 express the contrary view.[23] The Belgian Association, for example, there stated: (p. 28) "We are of opinion that the operator should not be made responsible for the payment of the indemnity or remuneration due by the goods on board the aircraft." The British memorandum states (p. 33) "We think the salvage remuneration should be pay able, not by the owner of the aircraft, nor by the shipper of the goods, but by the actual owner of the goods." The Italian memorandum asks (p. 45) "Instead of reserving to the aircraft alone the right to recover against the goods, why is a direct remedy not given to the Salvor?" The Netherlands Association said: (p. 60) "It may be asked if this responsibility should not be imposed on the owners of ** the merchandise salved, who are the first to benefit by the salvage." There would seem to have been an impressive unanimity of opinion at that time against the proposal to saddle the initial liability for cargo salvage on the exploitant or owner-operator of the aircraft. It is submitted that the passages quoted from the memoranda of the various National Maritime Law Associations correctly reflect the maritime tradition; and they are cer-

22. 33 Dor. Revue de Droit Maritime Compare, 349. Paris, 1936.
23. *Cf.* note 11.

tainly in accord with the well-settled law in the British Empire and the United States.

This point was stated in the resolutions of the American maritime bodies which considered the matter in 1936, but was presented by the American delegates at Berne only in an alternative form;[24] the suggestion so made was not accepted by the conference.

Article 8. Property Immune from Salvage

> Neither the personal effects and baggage of the crew and passengers, nor articles transported under the regime of postal conventions, are to be included in the property, either for purposes of calculating the remuneration, or with regard to the recourse to be exercised.

Some of these exclusions have been customary[25] in various countries, but this is the first attempt to insert all or any of them in an International Convention text. The American law is not in accord with these provisions. The 1910 Maritime Salvage Convention does not so provide.

One result of this provision would seem to be that if baggage on a ship is salved through the combined efforts of another ship and aircraft, the baggage might be liable for salvage to the other ship but not to the aircraft.

Shipowners should also consider that most of the property in aircraft is likely to consist of personal property, baggage, and postal matter. When a ship renders salvage service to an aircraft, a large part of the value in the aircraft is, therefore, proposed to be immune from salvage. This seems quite wrong.

Article 9. Time for Suit, One Year

The 1933 text limited the time to two years. The 1910 Maritime Convention also limits the time to two years. One year seems unreasonably short for a tort action which may necessitate investigation of facts in very distant places. No reason has been advanced for shortening the period from two years to one.

The American delegates at Berne urged the two-year rule, being supported by resolutions addressed to the State Department by many bodies representing American maritime interests, but without success.

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24. *Cf.* note 38.
25. Kennedy, *op. cit.*, page 59.

Article 11. Jurisdiction of Salvage Suits

(2) *International Co-operation of Courts to Prevent Limitations of Liability Being Exceeded.*

> If different salvors bring actions before courts situated in different countries, the defendant may, before each one of them, submit a statement of the total amount of the claims and money due, with a view to preventing the limits of his liability from being exceeded.

This novel and useful provision allows the defendant who is sued by different salvors in different countries on account of the same salvage to produce statements to the various courts of the aggregate claims allowed, so that his aggregate liability under the Convention may not be exceeded.

It contemplates international co-operation between the Courts. A similar provision is found in the Brussels Convention of 1925[26] relating to Limitation of Shipowners' Liabilities, and is now in effect in France and nine other important European maritime countries.

A similar article in the Rome Convention, Article 11, has resulted in the inclusion of such a provision in the British Carriage by Air Act 1932 (2nd schedule (4)). The principle appears to have possibilities of great usefulness, but the method of co-operation between courts of different sovereignties is as yet quite unexplored.

Article 12. Definition of "Exploitant"

> Any person who has the right to use an aircraft and who uses it for his own account shall be termed the exploitant of the aircraft. In case the name of the exploitant is not recorded on the aeronautic register or any other official document, the owner shall be deemed to be the exploitant subject to proof to the contrary.

The French text reads: Est qualifiée exploitant de l'aéronef toute personne qui en a la disposition et qui en fait usage pour son propre compte. Au cas où le nom de l'expoitant n'est pas inscrit au registre aéronautique ou sur tout autre pièce officielle, le propriétaire est réputé être l'exploitant jusqu'à preuve du contraire.

The text has defined the word *"exploitant" in relation to aircraft.* This definition corresponds to that found in the Rome Aviation Convention relating to damage to persons and property on the surface of the earth, Article 5. That definition has been much criticized and is not thought to be adequate. Exploitant is a French commercial term used in connection with the conduct of a busi-

26. *Cf.* note 29.

ness. It is not ordinarily used in relation to shipowning or ship operating. Thus the French word for a shipowner is *propriétaire;* a carrier is a *transporteur;* an operator who "mans, victuals and supplies the ship" in the American statutory phraseology, or who "manages and navigates the ship" in the British statutory phraseology, is in French called sometimes an *armateur* and sometimes a *fréteur.* A time-charterer is an *affréteur,* and if a ship is taken merely for a voyage, it is a *charter pour le voyage.* The French sometimes refer to the *propriétaire* as the *armateur,* when he manages his own vessel property.[27] But the word *exploitant* does not seem to have any particular meaning in the maritime field.

It is fairly obvious that the word *exploitant* is used in the sense of the English word *operator,* although the British Maritime Association indicated in 1934 that it might be translated as *charterer by demise,* "to include the classes of persons who would be covered by the provisions of section 9, sub-section 4, of the Maritime Conventions Act, 1911," which states that "This Act shall apply to any persons other than the owners responsible for the fault of the vessel as though the expression 'owner' included such persons, and in any case where, by virtue of any charter or demise, or for any other reason the owners are not responsible for the navigation and management of the vessel, this act shall be read as though for reference to the 'owners' there were submitted reference to the charterers or other persons for the time being so responsible."

It would seem well worth the effort to secure, at this time, a better understanding of the terms which are being used in the different languages, and to come to an agreement as to their translations. The adaptation of existing terms from the field of railway or motor-car law, or from shipping, may not adequately express the concepts desired in the aviation field. It may very well be necessary to invent new words and phrases as characteristic for aviation as are the words taxi and charter in relation to motor cars and ships.

Definition of Armateur.

The text uses the word *"armateur" in relation to ships and ship-owning and ship-operating,* but fails to define its meaning.

The basic difficulty is that the French define the *armateur* as the person who *derives the profits,* whereas the Americans and the English think of the corresponding *owner pro hac vice* as the person who *directs and pays* the bill for manning, victualing, managing

27. Ripert, Droit Commercial, ch. 2. See also Danjon et Leparneur, Manuel de Droit Maritime (2 ed., 1929) sec. 10.

and navigating the ship. The profit may be split several ways between shipowners, managers, freighters and brokers, to such an extent that the definition of *armateur* in terms of profits may become vague. Giving directions and paying the bills, on the contrary, is usually concentrated in one agency.

The American and British difficulty with the word *armateur* is that it does not precisely fit into their schemes of limitation of ship-owners' liability.[28] No person can limit his liability unless he is either actually the owner (*propriétaire*) or the demise charterer (*charter à coque nue*) or owner *pro hac vice*. Substantially the same thing is true in Great Britain. Consequently the use of the word *armateur* or the word *operator* is quite useless from the point of view of shipowners and ship operators.

The Brussels Convention of 1925 relative to Limitation of Shipowners' Liability had to deal with this identical problem, and it was solved by the use of the single expression *"propriétaire du navire"* (shipowner). It then provides in Article 10 that the right to limit shall be extended to such an *"armateur non-propriétaire ou affréteur principal"* (the non-owning company or the principal chartered owner) as is liable for any of the classes of lien-claims against which a shipowner may limit his liability. This language was carefully chosen by fully empowered delegates of shipowners, marine insurance underwriters, judges, and representatives of the Admiralty Bar, for the particular purpose of adapting the Convention to the terminology and legal thought of all countries, whether under the Roman and Civil Law or under the English Admiralty and Common Law. After ten years, there is still no reason to suppose that the phraseology so carefully chosen in the 1925 Limitation Convention is not suitable for the purpose. The 1925 Limitation Convention is now in satisfactory operation as the law in France and in nine other European countries.[29] Its method and phraseology should be adopted.

The solution therefore is to strike out the word *armateur* wherever it occurs in connection with ship-owning and operating, and to concentrate all the rights and duties in relation to ships upon the owner—the French word is *propriétaire*.

The settled statutory and case law of the British Empire and

28. British Limitation Acts: Merchant Shipping Act, 1894, sec. 503. U. S. Limitation Acts, RS 4181-4189, 46 U. S. Code 181-189; as amended August 29, 1935 and June 5, 1936. *Cf.* Maritime Law Ass'n doc. 228.

29. The (Brussels) Convention for the Unification of Certain Rules Relative to the Limitation of Shipowners' Liability, 1925. See generally, Report on the History and Status of Laws Relating to Limitation of Shipowners' Liability, by Messrs. Poor, Dean and Niles; Maritime Law Ass'n Doc. 196, at page 2026. Since that report was made, France has adopted the Convention.

the United States and Article 10 of the Brussels Limitation Convention, relating to the extension of the owners' rights and liabilities to bare-boat charterers and owners *pro hac vice* will then take care of *armateurs,* bare-boat charterers, etc., etc., according to the well-settled rules already familiar to the Bar.

Article 13. Application of Convention to Government Ships and Aircraft

> This Convention shall apply to government ships and aircraft, including military, customs and police ships or aircraft, with reservation of the provisions of Article 11 relating to jurisdiction and, as regards military, customs and police ships or aircraft, with reservation of the provisions of Article 2 relating to the obligation of assistance and salvage.

Government ships and aircraft are relieved from the obligation to answer the S. O. S. and go to the scene where persons are in danger.

The 1910 Salvage Convention (Art. 14) is not applied to government ships in public service. Since 1910, however, there has been a strong swing away from sovereign immunity for government vessels. The Safety at Sea Convention, 1929 applies to all public vessels except ships of war. The proposed text conforms in this tendency, and is desirable.

The American delegates at Berne proposed to exclude government aircraft from the operation of the convention, thus expressing the old stiff rule as to sovereign immunity, which Congress has so notably abandoned in the Acts of 1920 and 1925 relating to suits in Admiralty against government vessels in both commercial and non-commercial service. The proposal was not accepted by the conference.

Conclusion as to the Aviation Industry

While the convention text is in general approaching satisfactory shape, the interests of the aviation industry would seem to require the abandonment of the life-salvage indemnity provisions, the recognition of the personal service of the salvor as well as the property-interest of his employer, the abandonment of Article 7 requiring the aircraft owner-operator to pay the salvage due from the cargo, the extension of time for suit to two years, and the better definition of "exploitant." There should be a "sister-aircraft" clause, like Article 5 of the 1910 Convention.

II. Is the CITEJA 1936 Text Acceptable to the Maritime Shipping Industry and Its Underwriters?

The answer to this question is immediately, No. An earlier form of the text was submitted to a Sub-Committee of the International Maritime Committee in 1934; it received only qualified approval, and in its present form the text is quite opposed to the views of the 1934 Sub-Committee. The 1935 text was reviewed by several bodies representing American maritime interests, and was strongly criticized as to six points. The American delegates at Berne put forward only two of these criticisms; they put forward a third in an alternative form merely. The other three points were not even submitted to the Citeja by them.

From the maritime point of view, there are two fundamental objections to the Citeja 1936 text.

The Citeja's 1933 text was strictly limited to salvage of aircraft, aircraft cargo, and persons in aircraft; it made no change in the law as to ships, and in fact expressly provided that if persons in aircraft assist a vessel, "the conditions upon which this assistance shall be rendered and remunerated shall be determined by the same rules as though salvage had been rendered by one ship to another." In other words, the 1933 text provided that in a mixed situation involving aircraft and vessels, the maritime law and the Maritime Salvage Convention of 1910 should control.

The new (draft) convention provides precisely the reverse: If adopted, it would set up the principle that the new convention shall apply to all interested parties whenever either a salvor ship or aircraft, or a salved ship or aircraft flies the flag of a government which ratifies the new text. In other words, vessels shall all be brought under the new Air Salvage Convention whenever an aircraft plays a part—however minor—in the salvage situation, as either salvor or salvee. The consequence would be that the Maritime Salvage Convention of 1910, now happily the law in the United States, the whole British Empire and seventeen other leading maritime countries,[30] would thereafter govern only salvage situations in which no aircraft plays any part at all.

The second point of the greatest fundamental importance is that the new text apparently seeks to shift the theory of salvage from its present basis as a personal service rendered to persons and property, to a new basis as an affair merely between ships and shipowners. It is proposed that hereafter salvors are to be, not indi-

30. For list of adhering States, see note 16.

vidual persons generally, but only shipowners and aircraft operators. In seeking to accomplish this, the new text seems to destroy the present salvage rights of individuals, including those of ship masters and the crews of vessels. The purpose appears to be quite deliberate, for there are two alterations in the phraseology of the statement of the basis of salvage remuneration in Article 4, which is in every other respect an exact copy of Article 8 of the 1910 Salvage Convention. In furtherance of this purpose to shift the basis of salvage from individual salvors to property owners, the "sistership" clause (Article 5) has been omitted; and the "application of provisions" clause (Article 15) has been wholly recast. This is a far-reaching change; and if it is to be made, its purpose and scope should be thoroughly understood by the maritime shipping industry.

In the interval, the Citeja has been elaborating and reworking the text, until by a series of gradual alterations the matter has reached its present form, which seriously threatens the present basis of all maritime rights and duties in the matter of salvage.

Article 2. Obligation to Render Assistance

(2) *Ships Bound to Aid Persons in Aircraft at Sea.*

> Every ship captain shall be bound, under the circumstances contemplated in paragraph (1), to render assistance to any person who is at sea in danger of being lost in an aircraft or as the consequence of damage to an aircraft.

The Paris Sub-Committee and the Belgian and Italian Maritime Associations considered that this provision merely duplicates the Salvage Convention of 1910, Article 11. It appears to state the rule of the Safety at Sea Convention, Article 45, in an abbreviated and indirect form.

In the interests of harmony, safety and uniformity, the rule should be stated identically for both aircraft and vessels.

(3) *No Obligation Unless on a Voyage or Ready to Depart.*

> Such obligation shall not exist unless the aircraft or the ship is (1) in the course of a trip or; (2) ready to depart.

Neither the 1910 Convention nor the Safety Convention, Article 45 (1) and (2) excuses a vessel which is in port from answering a call of distress if the circumstances make it reaonable for her to go. It seems quite illogical to require a vessel in a port to go to sea to aid a distressed vessel, but to excuse her from going to aid a distressed aircraft. It is submitted that any ship or aircraft which can go, should go. The rule should in both cases be the same.

This sub-section should either be deleted, or be extended to all vessel situations in the Safety Convention 1929.

(4) *Obligation Ceases, When.*

The obligation of assistance shall cease when the person who is under such obligation has notice that assistance is assured by others under similar or better conditions than it could be by himself.

The provisions of the Safety Convention, Article 45, (3) and (4) cover this same point in clearer and more positive terms. The rule as to release from the obligation should be identical, regardless of whether the persons in distress are on a vessel or an aircraft. It is confusing to have two rules, differing lightly.

Article 3. Life Salvage Indemnity

(1) *Aid Rendered Pursuant to Obligation—Indemnity Based on Expenses and Losses, Although No Useful Result.*

Any assistance rendered in discharge of the obligation contemplated in the foregoing article shall call for an indemnity based on

1. the expenses justified by circumstances;
2. as well as the damage suffered in the course of the operations.

The present maritime law does not know this sort of an indemnity, which is a complete legal novelty. The familiar maritime remedy provided by the 1910 convention, Article 11, is also contained in this new convention in Article 5. The new convention thus proposes *two concurrent indemnities* for a single life-salvage service:

Article 3 (1)—expenses and losses, paid by the shipowner, and Article 5—a share in the property salvage award.

The text does not explicitly state who is to receive either the salvage indemnity or the remuneration. The context seems to indicate that no one but the shipowner can receive salvage. This is more fully discussed under Article 4 (5). The Belgian memorandum pointed out the need of clarifying this point. It asks: (page 30)

> "To whom is this indemnity payable? Is it to the crew, the operator, or the owner? To each of them, or only to one of them?"

The present text does not indicate any answer to these questions.

Example A: A large liner deviates to rescue one person from an aircraft. The aircraft operator (not the owner nor the rescued

person) is liable to the owner of the liner for expenses and losses up to $8,300 (125,000 gold francs).

Example B: An aircraft deviates to a large liner in distress and brings about the rescue of 1,000 persons. The vessel owner and armateur are liable to the aircraft operator for expenses and losses up to $8,300,000 (125,000 gold francs per person).

Query: If the lives are saved by a combination of the service of the aircraft and the service of a surface vessel, does the surface vessel share the aircraft fund?

If this new convention is to regulate the affairs of ships as well as of aircraft, it is obviously necessary to reconcile Article 3 (1) with Article 9 (par. 2) of the 1910 Maritime Salvage Convention.

It is submitted that if life salvage is to be paid for at all, the reward should consider skill, speed and courage of the master and crew. The 1910 Maritime Salvage Convention does not limit life salvors to mere out-of-pocket. Thus in the *Shreveport,* [31] the Spanish SS. *Aldecoa* rescued the crew and the award was $5,000, 4-5ths to her owners and 1-5 to her crew; while the *Mariners Harbor* salved the hull and cargo after arduous efforts, resulting in various personal awards for special skill, and $25,000 divided 2-5ths to her crew and 3-5ths to her owners and charterers. Plainly the *Aldecoa* received much more than her owner's out-of-pockets for the life salvage. Under the proposed aviation convention, the crew of vessels which save lives of aviators apparently get nothing; this seems entirely unfair, if they exhibit courage and skill.

(2) *Aid Without Obligation—Indemnity Based on Expenses and Losses, if Useful Result Achieved.*

> If the assistance was rendered in the absence of any obligation to do so, the assister shall have no right to an indemnity unless he has obtained a useful result by saving persons or by contributing thereto.

This provision seems to be applicable in only three situations.

Example A: An aircraft or vessel finds someone in distress along her course, without an S. O. S. or other message, and consequently without any obligation to deviate to assist.

Example B: An aircraft or vessel in an airport or harbor and not ready to depart, and hence excused from going by Article 2 (3), nevertheless heeds an S. O. S. and goes to the rescue. For this service, if successful, the owner may collect his out-of-pocket, but the crew get nothing for speed, courage and skill. It is diffi-

31. 42 Fed. 2d. 524, 1930 A. M. C. 1310.

cult to evaluate in advance the significance of these provisions. It may indeed sometimes be desirable to deter aviators, who have no other occupation at the moment, from flying to the scene of an accident in fine weather at the expense of the owner of the aircraft or vessel in peril. But in stormy weather, fog and darkness, when accidents are most likely to occur, is it wise to discourage ships and aviators from starting out on the chance of a rescue?

Example C: A person on a vessel in distress, who is under no contractual duty to take action (as for example a passenger, or a stowaway) goes to work as a volunteer to help the crew in the moment of peril; if his efforts contribute to a useful result in saving persons, he would be entitled to the indemnity provided by the convention.

(3) *Who Shall Pay.*

> The indemnity shall be payable by the operator of the aircraft assisted or by the owner or the armateur of the ship assisted.

This is a wholly novel provision. Heretofore, life salvage has been payable, if at all, out of the proceeds of property saved from the same peril. British Merchant Shipping Act, 1894, sec. 544; U. S. Salvage Act, 1912, 37 Stat. 242.

The text does not suggest whether the owner and armateur of the vessel are to be jointly or severally liable, nor whether either may have contribution from the other. These points need to be clarified unless the word armateur is dropped, as is suggested in the comment on Article 12.

There is absolutely no present basis for supposing that it is desired or sought by any responsible body in the shipping industry. The Paris Sub-Committee approved it only in respect to aircraft. The British and Belgian memoranda plainly stated that it was not the maritime law; and at that stage the text did not propose to change the law for vessels. It cannot be thought that the saving of lives from the *Vestris*, the *Philippar* or the *Morro Castle* would have taken any different or more successful course if the rescuing vessel had known that they could collect their out-of-pockets from the owners of those unfortunate vessels up to the sum of $8,300 per life saved.

If this new liability is imposed, it will have to be covered by suitable insurance. The nature of this coverage—whether tacked onto hull or liability policies—and the necessary premium rates, do not appear to have been considered at all up to the present.

The underwriters who might cover the risk have not yet been consulted.

If the risk is insured, it must be considered whether the underwriter will incur direct liability to life salvors under the English Third Parties (Rights against Insurers) Act[32] or under the New York Insurance Law, section 109.[33] This was pointed out by the Belgian memorandum in 1934; but the present draft does not indicate that any answer has been developed.

(4) (b) *Additional Limitations of Indemnity—Shipowners.*

> Furthermore, the owner or armateur of the ship shall not be liable beyond the limits fixed by the laws and conventions in force with respect to his liability.

This superimposes a general reference to the shipowners' limitation of liability laws which may be in effect in the place where the life-salvor seeks to recover his indemnity. It is by no means clear whether the life-salvage indemnity it to be ranked with other claims against the usual limitation fund, or whether the life-salvage indemnity ranks alone against a second fund, equal in amount to the usual fund. A question of this sort was asked by the Belgian Association in 1934. The present text does not suggest any answer.

(5) *Salvage by Several Ships or Aircraft*

> In case there has been assistance *by several ships* or aircraft, and the total sum of the indemnities due exceeds the limit fixed in the foregoing paragraph, a proportional reduction of the indemnities shall be made.

The want of harmony between the 1910 Maritime Salvage Convention and the proposed Aviation Salvage Convention would seem to make it quite impossible to apportion a life-salvage award under both conventions at the same time. One or the other must prevail, unless both are now harmonized. The new convention must therefore be treated as a fundamental attack upon the existing 1910 Maritime Salvage Convention.

Article 4. Property Salvage

(5) *Salvage Services Rendered by Aircraft to Ships*

> The same rules shall apply in case of assistance and salvage of a vessel or its cargo by an aircraft, in which case the owner or

32. Act of 10 July, 1930. 20-21 Geo. 5, c. 25.

33. Consol. Laws of New York, Book 27, Insurance Law, sec. 109, as amended, 1935, 1936.

armateur of the ship is reserved the right to avail himself of the limit of liability fixed for him by the laws and conventions in force.

This provision wholly reverses the text of 1933, which reads:

"ART. 2.—(1) Every Captain or Pilot of aircraft must render assistance to any person in peril on a ship at sea or being in peril in consequence of damage to a ship.

(2) The conditions upon which this assistance shall be rendered and remunerated are to be determined by the same rules as though salvage had been rendered by one ship to another."

There appears to be a fundamental difference of opinion about the scope of the 1910 Maritime Salvage Convention and about the nature of salvage services, and the character of the parties who are entitled to receive salvage awards. At the meeting of the Citeja Third Commission in February, 1936, Professor Ripert stated that the 1910 Maritime Salvage Convention is interpreted to apply only if two ships are concerned. This seems to imply that it has no application if the salvor does not happen to be in a salving ship; it seems to overlook Article 15, which states that the convention applies to persons (*les interessés*). If in the future, the Air Salvage Convention is intended to take over the whole field of salvage at sea, except when only two ships are concerned without any aircraft present, then his statement confirms the view that the new convention is a challenge to the older one of 1910. If on the other hand he meant that, in his view, the theory of maritime salvage is limited to relations between two ships, then it is submitted that the English and American maritime law of salvage is firmly settled to the contrary. It is submitted that a salvage service rendered by persons in aircraft to vessels, vessel-cargoes and persons in or ex-vessels, are today and always have been entitled to remuneration under the 1910 Salvage Convention, or at least under the traditional English and American case law. Lord Justice KENNEDY on "The Law of Civil Salvage" (second edition, 1907), says, at page 123:

"Every act of effectual assistance if it is done voluntarily to save that which is at the time in danger is of the nature of salvage,"

and catalogues many different forms of service, many of which do not involve the use of an independent vessel by the salvor.

At page 71 Lord Justice KENNEDY also says:

"The court of admiralty as a general rule makes two requirements of those who claim to rank as salvors: (1) that

> they have been *personally engaged* in the service in respect of which they claim reward, (2) that they have undertaken the services as volunteers."

He quotes SIR CHRISTOPHER ROBINSON in the *Thetis*, 3 Hagg. 14, 41, as saying:

> "Salvage in its simple character is the service of those who recover property from loss or danger at sea, rendered to the owners, with the responsibility of making restitution, and with a lien for their reward. *It is personal in its primary character, at least;* * * * for by whom can the service be said to be ostensibly performed but by those who recover the thing? * * * the Court looks primarily to the actual salvor. * * * There is no principle of constructive assistance in civil salvage."

At page 73 he points out that an exception, however, is made in favor of the owners of the salving vessel, and quotes Lord STOWELL in the *Vine*, 2 Hagg. 1, 2:

> "It is the general rule that a party not actually occupied in effecting a salvage service is not entitled to a salvage remuneration. The exception to this rule, that not infrequently occurs, is in favor of owners of vessels, which, in rendering assistance, have either been diverted from their proper employment or have experienced a special mischief occasioning the owners some inconvenience and loss, for which an equitable compensation may reasonably be claimed."

It is firmly settled in the British Empire and in the United States that *salvage is paid primarily to persons for their services, and not to shipowners for the diversion of their ships.* The proposal of a system based on the view that salvage is payable primarily to the owners of ships and aircraft therefore requires the most serious attention. The adoption of a differing system seems sure to lead to great complications in situations where a ship is liable for salvage service in part to an aircraft and in part to persons on other ships, or to persons on neither a ship nor an aircraft. The debates and reports on the new convention do not indicate that these possibilities have been adequately explored, nor that they have ever been considered by the owners of ships and by marine underwriters.

The provision allowing a shipowner to limit his salvage liability for property salvage under national laws may be considered in three aspects:

(1) his interest in life salvage of persons in his ship;

(2) his interest in his own property, the ship and her freight;

(3) his interest as bailee of his cargo.

The life salvage matter has already been dealt with under Articles 2 and 3.

The shipowner's interest in his ship and freight is not capable of further limitation under the United States statutes, because our laws[34] measure the owner's whole liability (other than for life) by the value of the ship and freight after the accident. The German law is to the same effect.

In other countries, where the owner limits to £8 a ton (as in the British Empire) or to not exceeding £8 a ton (as in the 1925 Limitation Convention countries),[35] the proposed provision would apparently mean that the shipowner's salvage liability could never exceed those values.

Example A: A vessel of 5,000 tons, with a limitation value, at £8, of £40,000, is in peril and is saved by a tug under the guidance of an aircraft. If the salvage award exceeds £40,000 (a most unlikely event), the shipowner may limit the award to £40,000.

Example B: The same vessel, after the salvage, reaches port with an actual value of only £5,000. If in England, the owner still has to respond up to £40,000. If in France or some other convention country, he may limit (as in the United States and Germany) to the actual value, namely: £5,000. But of course the salvage award cannot exceed the salved value, Article 4 (3). Hence the reservation of the right to limit seems illusory.

The Belgian memorandum of 1934 suggested another possible interpretation (page 27,) namely, that "the owner of the aircraft (and/or ship) may be called upon to pay for the salvage of persons an indemnity equal to the value of the aircraft (and/or ship) before the accident, and, in addition to this, if the aircraft (and/or ship) is salved, an indemnity for its salvage."

It is at least uncertain whether the award for salvage of the ship is to be lumped with all other liens and ranked against the limitation fund, or whether there are to be two—or possibly three—funds, each measured by the maritime limitation laws: one fund for life-salvage (Article 3,) one for ship-property salvage (Article 4) and the third for all ordinary maritime lienors. Such a result

34. Maritime Law Ass'n Doc. 196, *supra*, note 29..
35. List of adhering States: Belgium, Brazil, Denmark, Finland, France, Italy, Netherlands, Norway, Portugal, Spain, Sweden.

would be most distressing for shipowners, and would force them to use every possible device to avoid using aircraft in situations involving any possibility of salvage. This would be socially disadvantageous.

There remains the possibility that the shipowner is liable for the salvage awards on account of his cargo, and may limit his liability against that eventuality. The 1933 text, as already stated, did in fact propose exactly that. The Paris Sub-Committee objected to it, and it seems fairly clear that the 1936 text has abandoned the idea. To prevent any uncertainty, however, it is suggested that there should now be an unequivocal statement from the Citeja that there is no longer any intention to impose on shipowners a liability for cargo salvage awards.

Article 7. Who Shall Pay Salvage Awards

(3) *Recourse of Shipowners*

> The recourse of the owner or of the armateur of the ship against owners of goods shall remain subject to maritime rules.

This was emphatically opposed by the British, Belgian, Italian and Dutch memoranda; and the Paris Sub-Committee took a positive stand against this article. Nevertheless, it is still retained in the text.

This provision appears to mean that the shipowner or aircraft operator is *always* primarily liable to salvors of cargo, and, after he has paid the salvors, is entitled to seek reimbursement from the cargo owners. Nothing is said about the possession of the cargo. If the shipowner pays the cargo salvage, he ought to get possession of the cargo. But why should the cargo be given to the shipowner? The shipowner does not necessarily have any interest whatsoever in the cargo, and the adjustment of cargo salvage ought to be attended to by the salvor and the cargo owner and his cargo underwriters, without requiring the intervention of the shipowner who may have no interest therein. Of course, if the shipowner wishes to act as bailee for the cargo, that situation should not be forbidden[36] but after the vessel is a total loss and the voyage is broken up, there is no necessity or logical reason why the shipowner or ship operator should be injected into the direct relations between cargo salvors and cargo owners. The provision that shipowners shall have recourse against cargo owners "subject to maritime rules" is hardly

36. Kennedy, *op. cit.*, note 1 (2d ed.) p. 210. See the discussion under Article 7 (1) and (2), *supra*.

a satisfactory way of stating the subrogation rights of a bailee of the cargo.

Article 11. Jurisdiction of Salvage Suits

(1) *Option of Plaintiff*

To hear indemnity or remuneration actions the following authorities shall have jurisdiction, in the territory of each one of the High Contracting Parties, at the option of the plaintiff:

1. the judicial authorities of the defendant's domicile,

2. those of the place where the operations of assistance and salvage were affected and,

3. if there has been an attachment of the aircraft or of the cargo salved, the judicial authorities of the place of such attachment.

English and American members of the Comité have been uniformly opposed to jurisdictional clauses. French members on the whole have strongly advocated such provisions. It is self-evident that jurisdiction can be had in situations 1 and 3. There seems little reason for the second unless the property is attached there, in which event the third applies.

The Anglo-Saxon sentiment is undoubtedly opposed to the inclusion of this article.

The 1910 Convention has no analogous provisions.

Article 14. Scope of Convention—When Its Provisions Apply

The provisions of this Convention shall be applied with respect to all interested parties when either

1. the assisting or salving ship or aircraft or

2. the assisted or salved ship or aircraft

belong to a government of one of the High Contracting Parties or is registered therewith.

The statement of the scope of the Convention fully proves the argument heretofore advanced that the 1936 (draft) Air Salvage Convention is intended wholly to supersede the 1910 Maritime Salvage Convention in all mixed salvage situations where both ships and aircraft are concerned. If it were adopted, the 1910 Convention would thereafter apply only to situations relating exclusively to ships, with no aircraft present as either a salvor or a salvee. At the present time, with some 20,000 ships sailing the high seas and not more than 200 aircraft regularly engaged in crossing the high seas, this may not seem important. But the small number of aircraft, passing at very high speeds, already cover a relatively large mileage

as compared with the ships; and with the number of aircraft increasing, as they are sure to do, it will soon be a major question, whether in mixed salvages concerning aircraft and ships, the ship law shall follow the aircraft or the aircraft law shall follow the ships. A decision on this fundamental matter of policy is now required. This decision should be made after the fullest consideration by the interests concerned, most especially by the shipowners and the marine insurance underwriters.

Conclusions as to the Maritime Shipping Industry

The 1936 text has never been submitted to a full meeting of the Comité Maritime International, nor to any other maritime body. It differs so widely from the 1933 text, and cuts so much more deeply into the existing body of maritime salvage law, that the Sub-Committee's partial approval given to the 1933 text can not be in any sense regarded as an approval of the 1936 text. American maritime organizations have already expressed themselves in opposition to the text, in its 1935 form. It seems certain that the same organizations will feel much more hostile to the 1936 text which is now newly disclosed, for it repeats and emphasizes all the points towards which American criticism has already been directed, and seeks to subordinate the existing international salvage law of the great established shipping services of the world to a new system devised in favor of the new-born aviation services.

The six recommendations made by the American maritime bodies which have considered this matter are:

1. Elimination of provisions as to salvage services rendered by aircraft to vessels, vessel cargoes and freights, the same being already adequately covered by law.[37]

2. Cargo to pay the salvor directly for the salvage service, instead of through the carrier, who has no interest therein.[38] The Convention should provide a maritime lien or a lien in the nature of a maritime lien directly upon all aircraft property, aircraft cargo and aircraft freight to which salvage services are rendered at sea by persons, aircraft and vessels.

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37. This point, endorsed by the Maritime Law Association, the American Bar Association, the Boards of Marine Underwriters of New York and San Francisco, and the Admiralty Committee of the Bar Association of the City of New York, does not seem to have been presented to the C.I.T.E.J.A. by the American delegates who went to Berne.

38. This point, endorsed by the organizations mentioned in Note 30, was presented by the American delegates at Berne in the following form:

"It is recommended that Article 7 be amended to provide that remuneration due for assistance and salvage of cargo shall be payable *by the operator of the aircraft or directly by the owner of the cargo.*"

This alternative form of statement, without any suggestion of how the choice of alternatives is to be guided, obviously fails to meet the issue.

3. The definition of "cargo" to include all property in the aircraft, specifically baggage, personal possessions, parcel post and general mail matter.[39]

4. An S.O.S. under the Aviation Salvage at Sea Convention to have precisely the same legal meaning and effect as an S.O.S. under the Maritime Safety at Sea Convention, London 1929, Section 45.[40]

5. Reward of successful lifesaving efforts, requested by S.O.S. should consider speed, skill and courage in rendering or attempting to render the service as well as out-of-pocket expenses.

6. The obligation to search for fallen aircraft should be limited to such as the circumstances require, within the reasonable discretion of each ship master or aircraft pilot concerned.

The present program of the Citeja, it is understood, is to present the new (draft) Air Salvage at Sea Convention to a Diplomatic Conference in 1937, to be accepted and signed by all participating governments, and subsequently ratified and put into effect.

It happens that the Comité Maritime International is also now planning a meeting for August, 1937; and both meetings are expected to be held in Paris. An opportunity to bring about an expression of maritime opinion is therefore likely to occur.

The matter has never come before a full meeting of the Comité, which has not met since 1933. It should, obviously, be placed on the Agenda for the next meeting, and no action should be taken by the Citeja until the Comité has had full opportunity of debate.

Conclusion

The draft Salvage at Sea Convention merits further analysis and discussion of points which are fundamental both to the aviation industry and to the maritime shipping industry. In several respects, it requires better adjustment to the 1910 Maritime Salvage Convention and the existing legal concepts prevailing in Great Britain and in the United States.

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39. *Supra*, note 37.
40. *Supra*, note 37.

INSTRUMENT—NOT BLIND FLYING*

HERBERT W. ANDERSON†

When a person is lost and wandering aimlessly in circles, perhaps through a dense forest or in desert land, his sense of direction is gone because he has no natural way of determining direction other than by visual reference to familiar objects. We lack what might be termed a "compass" in our minds. We may become lost directionally on the ground or lost in all directions in the air. Airplane pilots flying in fog or clouds are in what appears to be a gray globular mass where all sense of direction is lost. They not only must maintain the desired direction horizontally, but are required to keep the airplane in the proper attitudes longitudinally and laterally. That the pilot is incapable of doing this without special instruments has been proved in many tests both in flight and on the ground. Majors Ocker and Crane[1] have made extensive research on this subject, even demonstrating that blindfolded birds, when launched into the air, fluttered helplessly, and failed utterly in their attempts to maintain flight.

In the inner ear we have semi-circular canals which are tubes lined with delicate nerves and filled with liquid. These give us our "sense of balance." Without this device it is likely that we would be unable to stand or walk in the dark. This mechanism does not, however, enable us to fly without visual reference to the ground. The forces of acceleration and deceleration and the centrifugal forces encountered in flight are many times greater than those experienced while walking or standing. As a result the pilot must depend on visual reference to the ground for his "air-balance sense" or employ instruments that substitute outside visual reference.

* This is the first of a series of articles to be published in the JOURNAL OF AIR LAW on the use of radio and other instruments in air navigation. With the increasing importance of instruments in air navigation and public attention on "blind" flying, lawyer and layman alike, if uninitiated, are confronted with the necessity for a non-technical explanation of a highly technical subject matter. This article, which was prepared by the author at the request and under the supervision of the Editor-in-Chief, is intended to serve that purpose and to furnish the basic information for any further research deemed necessary. The JOURNAL OF AIR LAW is fortunate to have secured the services of the author whose training, qualifications and long experience in instructing, fit him pre-eminently for the task assigned.—[Ed. note.]

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1. *Ocker* and *Crane*, Blind Flight in Theory and Practice.

Properly executed turns evoke no sensation of turning. It is even possible to execute some acrobatic maneuvers in flying without receiving, through the sense of balance, a true impression of what is taking place. The fluid in the ear in these cases remains in its normal position due to centrifugal force. Since the fluid does not change its position, no sensation of change of the plane's attitude is received.

The "sense of balance" is further complicated by other forces coming into play in flying which tend to give false impressions. Rapid acceleration gives an impression of leaning backward. Rapid deceleration gives an impression of leaning forward. The reader may try a simple experiment on the vagaries of the balance mechanism by gazing upward at a spot on the ceiling of a room and then turning around, eight or ten times to the right.

Upon stopping, close the eyes—notice that the sense of balance causes an impression of turning to the left although no turn is being made. The physiological and psychological phases of the inability of a pilot to maintain equilibrium through his balance sense while flying in fog or clouds are many.

That the pilot must be equipped with the proper instruments and proper training in their use in order to fly successfully without any visual reference to the ground has been proved. It is believed that many of the early transoceanic flights ended in tragedy because of such deficiency. Lindbergh was one of those who paid much attention to this problem. The Spirit of St. Louis was so designed that it was difficult for the pilot to fly other than by instruments. It had no direct forward visibility except through a periscope. Its design might be likened to having an automobile windshield occupied and covered with the instrument panel. A pilot, today, untrained in instrument flying would find it a most difficult machine to fly over land even in clear weather.

The development of the instruments themselves marks a long period of experiment. Part of the early experiments were concerned with indicating devices that were operated by gravity. Some of these were spirit levels in various shapes and combinations; others were pendulum devices. They were unsuccessful because the centrifugal forces in actual flight gave erroneous readings similar to the sensations received by the pilot through his sense of balance. A slight gain was made in that the instruments could be better controlled as to sensitivity.

The magnetic compass fails as an instrument for indicating turns due to centrifugal and magnetic forces acting on it. When

flying on a course East or West, raising or lowering the plane's nose causes the compass to indicate the start of a turn although no change of direction is made. In making sharp turns from North to South the compass card indicates a turn through East when the turn is actually made through West and indicates a turn through West when the turn is actually made through the East. South of the Equator this takes place on turns away from South. The instability of the compass increases with distance from the Equator until the magnetic poles are reached—there the slightest maneuvers of the plane revolve the compass card through wide arcs.

The behavior of the magnetic compass, while changing direction, made it necessary to seek other solutions.

The mechanics of the gyroscope have long been understood and inventors focussed their attention on this device as a solution because of the gyroscope's stability and reactions. The turn indicator was one of the first gyroscopic instruments to be developed for aviation use. In this instrument the gyroscope is linked with a needle that indicates when a turn is being made to the right or to the left and when a straight course is being maintained. This gives the pilot a definite fix that he can rely upon. By controlling the turn he can correlate the use of his air-speed indicator. When the plane is slowing down (as shown by the air-speed indicator), he is climbing; when it is accelerating, he is diving. By the use of a level, called the bank indicator (a steel ball in a curved, liquid filled tube), he has information as to whether the wings are level when the plane is in straight flight. This information permits sustained flight irrespective of visual reference to the ground.

To further aid him, another flight instrument was added—the rate of climb indicator which shows the rate of ascent or descent in feet per minute. This instrument was needed because the air speed indicator could be relied upon only when the plane was flying faster than its stalling speed and when the power from the engine unit remained practically the same. By correlating the knowledge of the speed with the knowledge of whether the plane was climbing or descending, the pilot's navigation problem was considerably lessened.

These basic instruments still appear on modern transport ships. They are, however, supplemented by the artificial horizon (an instrument showing the true position of the horizon in relation to the airplane), the directional gyro compass (a non-magnetic instrument),

and, in some cases, the gyro, or automatic pilot.[2] These additional gyroscopically activated instruments give definite information, rapidly and accurately at all times, as to the plane's position with relation to the earth's axis.

In taking tests for a scheduled air transport rating (required of all airline pilots carrying mail and passengers) the pilot is not permitted the use of these later gyro instruments. He must demonstate skill under more difficult conditions. The pilot must fly his test using as flight instruments the compass, rate of climb, airspeed indicator, bank and turn indicator, clock, altimeter and radio only.

In order to secure this rating, a pilot, in addition to his experience requirements,[3] must prove his ability to handle a plane while under a hooded cockpit which blocks out all vision except that of the instruments and controls. He must perform all of the normal maneuvers of flying such as climbs, glides, precision turns to a predetermined heading, straight and level flights within very strict limits of change of heading and altitude, steep banks and recovery from unusual positions such as stalls, tight spirals, etc. He must also prove his ability to locate himself by the use of his radio, to navigate to the radio range station and then to maneuver for an accurate approach to the airport.

Proficiency is attained through practice in actual flight in a training plane supplemented, in some instances, by the use of a ground training device such as the Link trainer, a patented ground training device simulating flight conditions.[4]

One of the first things the student learns in flying under the hood is that his sense of balance is his enemy rather than his friend because the sensations he receives are inaccurate and may be at variance with his instrument readings. He also learns that trying to visualize the attitudes of the plane in interpreting his instrument readings is a drawback. The pilot must learn to use the controls for the sole purpose of moving the needles on the instrument panel.

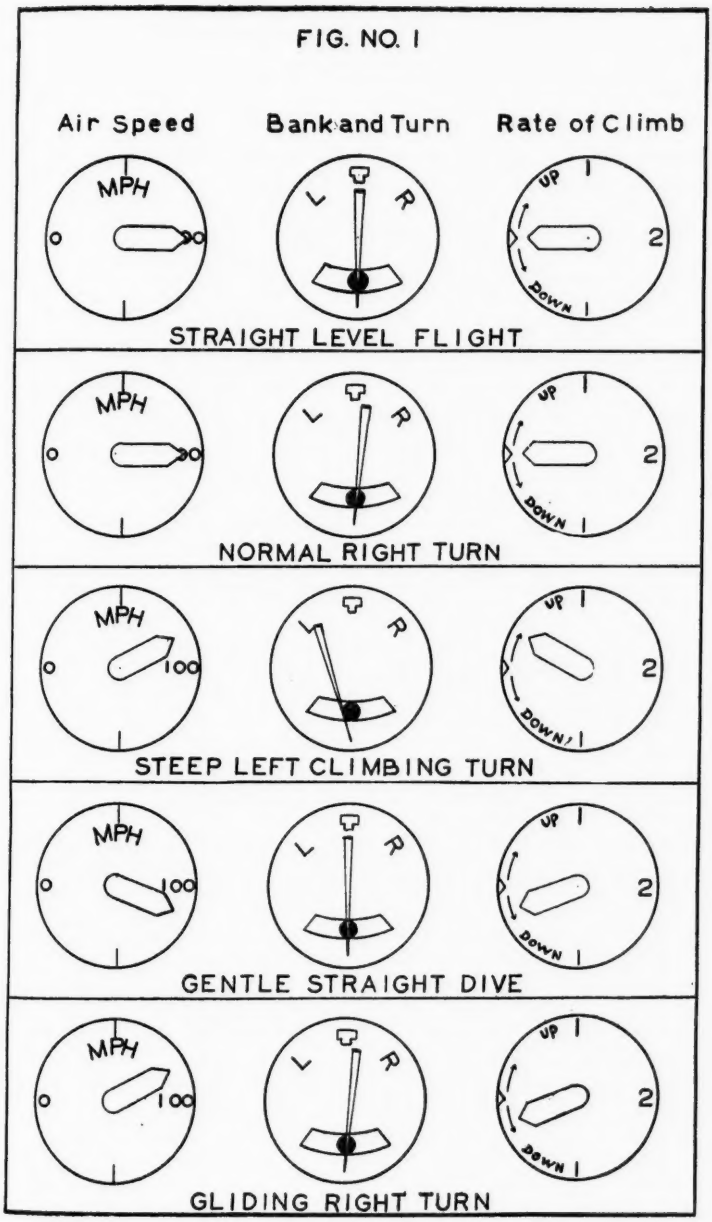
During all practice flights, the instructor or "safety pilot" has full outside vision and a complete set of controls and instruments with which he makes landings and take-offs and which are available in emergencies. The student sits in an enclosed cockpit having his vision restricted to the instruments and the airplane controls. The radio receiving set is usually equipped with an inter-cockpit com-

2. "Current Practice in Instrument Panel Layout," 27 Aero Digest, 1935, Aug. p. 40, Sept. p. 42, Oct. p. 40, Dec. p. 40.

3. See Bureau of Air Commerce Bulletin 7E.

4. 35 Aviation, 1936, Sept. pp. 37-38.

FIG. NO. 1


Air Speed
Bank and Turn
Rate of Climb
MPH
0
100
L
R
UP
DOWN
2
STRAIGHT LEVEL FLIGHT
NORMAL RIGHT TURN
STEEP LEFT CLIMBING TURN
GENTLE STRAIGHT DIVE
GLIDING RIGHT TURN

munication system to permit exchange of conversation between student and the instructor and to permit both to listen to the radio signals. If a student has no previous instrument flying experience he most likely will be given a ride with the hood open, enabling him to determine what the instrument readings are in such positions as normal climb, normal glide, etc. A few of these positions are illustrated in Figure No. 1. The hood is then closed and the pilot student instructed in the use of the turn indicator and the other instruments and in the importance of their correlation with the controls themselves rather than with the corresponding attitude of the airplane. Practice is started on turns and straight flying until the student definitely has acquired ability to control the plane in these maneuvers. He then progresses to precision turns, changing direction 90°, 180°, etc. These are executed by using the turn indicator and clock. Turn indicators are usually calibrated so that a turn of 3° per second is made when the turn indicator needle is moved to the right or left a distance equal to its own width and the pilot, in changing direction, calculates on the following basis:

3° — 1 second
90° — 30 seconds
180° — 60 seconds

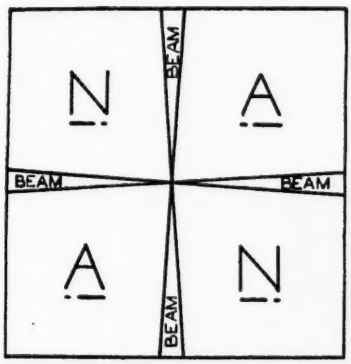
From there the student progresses to making turns from one compass course to another. Should he be flying a course of 90° (East) and should the instructor request a heading of 180° (South), the student would make a turn to the right for 30 seconds, then return his plane to a straight and level flying position until the compass settled down and permitted him to check the change of course. As the work continues the instructor becomes more exacting in the matter of smoothness, accuracy, ability to hold altitude, etc.

The student then progresses to climbing turns, gliding turns, maximum climbs, minimum glides, steep banks, holding an accurate compass course for considerable periods of time, and recovery from unusual positions. In the teaching of recovery from such positions, the instructor first takes the controls and makes at least two turns of a sharp, steep bank to induce vertigo. He then places the plane in some unusual attitude and asks the student to recover to straight level flight as soon as possible. The vertigo induced in the turns often makes the student confused, since his senses indicate continued turning in an opposite direction even though he has resumed level flight as shown by his instruments. This practice

on actual instrument flying continues until the student can definitely demonstrate his ability to perform the required maneuvers with a skill comparable to that which he would exhibit if he were flying visually. Experiments have been successfully conducted wherein a person with no previous flight training was given a complete course of instrument instruction under the hood before he was permitted to fly visually. Results indicated that learning instrument flying was no more of a problem to the novice than learning visual flying.

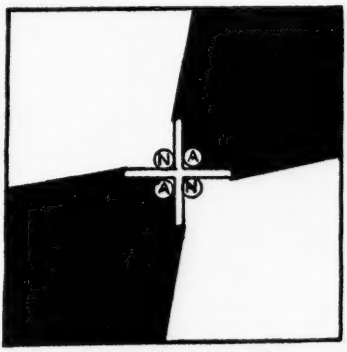
Leaving this stage of air work, the pilot student passes into the subject of Radio Navigation. This is the only means of accurately navigating without visual reference to the ground or sky

Figure No. 2



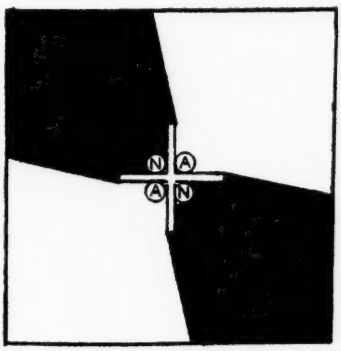
PLAN RADIO RANGE BEACON

Figure No. 3



LIGHTS N-N BURNING

Figure No. 4



LIGHTS A-A BURNING

Figure No. 5 A

SYNCHRONIZED FLASHES

and which makes possible the practical and safe application of instrument flying to the commercial need of going from here to there.

The system of radio navigation most used in United States aviation today is the Radio Range Beacon—or, by another name, "Radio Beam." It is designed for aircraft use. The radio range beacon transmits radio signals of a pattern that forms four "off-course" zones (Two are "N" quadrants—dash dot — . ; two are "A" quadrants—dot dash . —). The pattern also forms four "on-course" paths (radio beams). In plan they form a cross. See Figure No. 2.)

An airplane radio receives the signal of the zone it is flying in and will always receive some signal from the station to which it is tuned unless the distance between them is too great (from 40-100 miles or more, depending on the station's power and atmospheric conditions). A nation-wide system of radio range stations makes air navigation possible without sight of sky or land. The "on-course" signals or "beams" are directed along the courses of the principal air routes.[5]

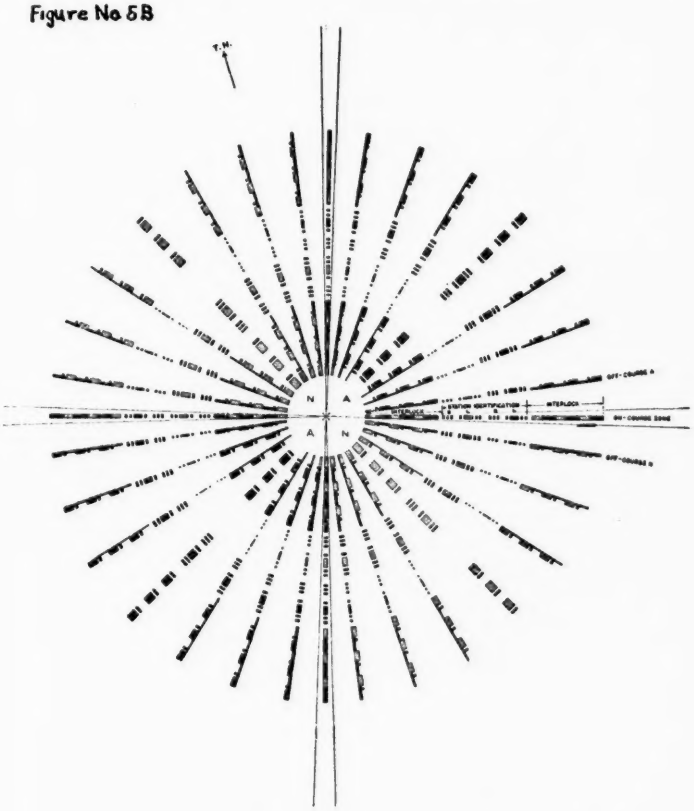
To illustrate the principles of radio navigation and at the same time avoid a highly technical explanation, the behavior of light waves will be used as a medium of explanation. Both radio and light waves travel in patterns of straight lines and so permit the comparison.

The four light bulbs in Figures No. 3, 4, 5A represent the four transmitting antennae found at radio range stations. The lines separating the four lights are opaque partitions simulating the particular radio antenna design. When lights "NN" are burning and lights "AA" are out, a pattern of light and shadow results as in Figure No. 3. If lights "AA" are burning and lights "NN" are out, a pattern of light and shadow results, as in Figure No. 4. If these two patterns are superimposed as in Figure No. 5A, note that four zones are always in light. The zone always lighted represents the "on course" signals or beams and the areas alternately light and dark, the "A" and "N" quadrants. By synchronizing the intermittent flashes, the four beams can remain in continuous light and a distinctive signal code be transmitted in the "A" and "N" quadrants.

In the radio range beacon, the key of the automatic transmitter synchronizes the radio impulses. The key makes contact

5. The Federal Airways System, Aeronautics Bulletin No. 24, July 1, 1935, p. 16.

Figure No 5B

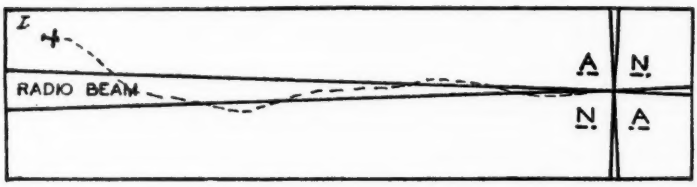


and transmits the dash of the "N" (dash dot — .) signal over the "N" antenna and the very instant it breaks contact, the dot of the "A" (dot dash . —) signal is transmitted over the "A" antenna. As this contact is broken, the dot of the "N" signal is sent over the "N" antenna, followed by the transmission of a dash over the the "A" antenna. As one antenna set broadcasts, the other is silent. This synchronization provides a continuous note in the "on course" signal zone. Technically the "on-course" signals are not projected, but are due to the placement of the aircraft in a geographical position with respect to the amount of "light" or signalled energy from the NN and AA lights or antennae. Whenever the amount of "light" or signal energy from the two signal sources is equal, the monotone signal formed by the controlled keying of the two signal

sources of energy indicates a known geographical "on-course" signal. Figure No. 5B. To avoid confusing the signals of one radio range station with another, a coded station identification signal is transmitted at regular intervals not exceeding 12 seconds.

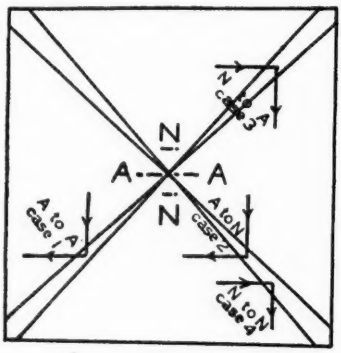
The instrument flying student not only receives an explanation of Radio Range Beacon theory but must familiarize himself with the compass directions of the various beams of the station he is practicing on, the location of the radio station relative to the airport (usually within a 1½ mile radius), and other items intimately connected with the particular station used in practice flights. This familiarization follows the air lines' approved approach or "let-down" procedure, which has previously been worked out by the chief pilot and Bureau air line inspectors. He is not necessarily

Figure No.6



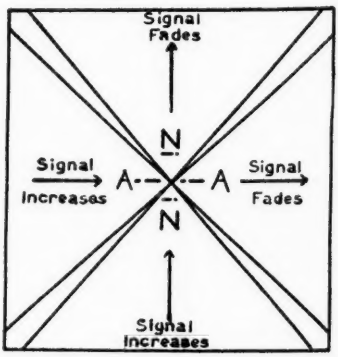
FOLLOWING THE BEAM

Figure No.7



90° ORIENTATION METHOD

Figure No.8



FADEOUT ORIENTATION METHOD

required to remember these headings but it is necessary that he have a plan or "plate" of the approved procedure.

In Radio Beam training, the student is taken out in a direction known to him to work on a designated beam. He is given practice in following this particular beam. He may start out to follow it from position "I" as illustrated in Figure No. 6. Hearing the "A" signal, he would turn to a course that would intercept the "on-course" signal. Upon hearing the "on-course" signal, he would make the necessary correction to head toward the station. Continuing this path until hearing an "off-course" signal (in this case being the "N"), he would then make the necessary correction to again intercept the beam and by so using the radio signals, follow the gradual tapering "on-course" signal zone into the station. As he approached the station there would be a noticeable build-up in the signal strength until the transmitting station itself was reached. There a pronounced surge from a strong signal to a very, very weak signal, back to a strong signal, followed by a gradual fading would be heard. The area of low signal strength is commonly called the "cone of silence" and appears directly over the transmitting station indicating to the pilot his position with respect to it.

After attaining proficiency in following the radio beam and locating the transmitting station, the pilot student is then given instruction in orientation problems. In these he is not permitted to turn the radio on until told to do so by the instructor. Not knowing his location, he is, to all purposes, "lost." When he does turn the radio on he will hear either an "A" signal or an "N" signal. However, he does not know whether it is the signal North of the station or the signal South of the station. To determine which zone he is in, he applies one of several orientation methods which he has studied.

Only two will be mentioned here. One is called the 90° method. (The particular compass headings or courses to be flown while working this type of orientation problem are plotted on the airway map.) In this example the direction of the beams are represented in Figure No. 7. If the student should hear the "A" signal, as in cases No. 1 and 2, he would take a course of South, as shown. Upon reaching the "on-course" signal, he would make a 90° right hand turn. If after making a 90° turn to the right he hears an "N" signal, he came from the East sector and is now in the South "N" sector (case No. 2). If he should hear an "A" after making the 90° right hand turn, he came from the West sector and is back in the West sector (case No. 1). He must now maneuver to get back on the known radio range beam and follow it into the station.

A comparative procedure would be used in the event the "N" signal was the one first heard. (Cases No. 3 and 4.)

Another method of orientation is known as the fade-out system. If, upon turning on the radio, the student should hear an "A" signal, and not know its location with relation to the transmitting station, he would take a course that would be a bisector of either angle formed by the "on-course" headings of the radio beams adjoining the "A" signal quadrants. (These beam headings are given on all maps issued by the Bureau of Air Commerce showing radio aids.) With his receiver volume tuned low, he would fly this course until there was an unquestioned change in the signal strength. If the signals became weaker and weaker, he would know that he was flying away from the station and in this case he would be in the East "A." (See Figure No. 8.) If the signals should increase in strength, he would know that he was approaching the station and would locate himself as being in the West "A." The same procedure would be followed in the "N" sectors. After identifying a particular "A" or "N" quadrant, the student would then seek the "on-course" signal zone and follow it into the station.

During the Scheduled Air Transport Rating (commonly referred to as S.A.T.R.) test, the pilot is required to perform all of his air work before turning on the radio and, as a result, he loses his position relative to the home radio station and is required to work the orientation problem to locate himself. After locating himself and getting on the beam, he follows it to the cone of silence at an altitude of two or three thousand feet, as the Bureau of Air Commerce Inspector may designate. He is then required to go away from the station, intercept a designated beam of the radio range and then to again return to the station but this time at an altitude that will permit him, after again passing the cone of silence, to maneuver to the airport, arriving there at an altitude of approximately 200 feet.

The application of instrument flying and radio navigation to actual airline practice is one that involves many factors other than the technique of maneuvering and navigating the airplane itself.[6] It is in the application of instrument flying that the best judgment of the pilot, dispatcher, and meteorologist are united for maximum performance and safety. Because of adverse weather conditions at the intended destination, instrument flying is sometimes used to take passage to alternate terminals or emergency landing fields. One pilot jokingly referred to his turn and bank indicator as a "turn and go back" indicator. However, this pilot had

6. See *W. B. Courtney*, "Is It Safe to Fly?," Colliers' Magazine, March 20, 1937. It should be noted, however, that the map in the article referred to does not depict with exactness the location of the air facilities in question.

used his instruments and radio navigation aids many times in completing safe trips that would not have been flown had it been necessary for him to see the ground during the entire flight.

Thunderstorms, rain and snow static, split beams, and other radio phenomena plague the efficiency of radio navigation. Thus research is promoted, experiment and invention continued in further perfecting the Radio Range and development of new methods of Radio Navigation. Fortunately radio waves travel more or less in straight lines which makes it possible to receive them with an airplane antenna having directional characteristics. When such a directional antenna is turned to intercept the radio waves 90° from the maximum strength a "null" is apparent. This "null" or indication is registered on an azimuth[7] indicator from which calculations can be readily made as to the source of signal energy in respect to the magnetic headings of the aircraft. Such system is commonly known as "direction finders" or "radio compass."[8]

Still another system of radio navigation has been used successfully. In this system the aircraft's transmitter radiates energy on a designated frequency (wave-length) while one, two, or possibly three direction finders on the ground are operated to determine the direction of the airplane. Where only one direction finder is employed on the ground it is possible to locate the position of the airplane but only with respect to its bearing from the receiving point. In order to determine both bearing and distance a "fix" is necessary. This "fix" can be ascertained when two or more radio direction finders on the ground separated geographically and operated simultaneously obtain bearings. A line, corresponding to the bearings, from each of these receiving points is projected across a chart, at the intersection of these lines a "fix" is indicated which definitely locates the plane's position. This information is then relayed back to the pilot in terms of his position, which, in the case of domestic operation, is usually associated with known geographical points and in over-water operation is referred to by latitude and longitude.

Honors and credits for the past technical achievements are owed to many: airlines, federal and military agencies, pilots, engineers, and others. Federal airline safety conferences, where individual experience is generously divided, further advance the technique, making it truly instrument—not blind flying.

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7. The azimuth of a body is the angle made by a vertical plane passing through it and the observer and a plane passing through the earth's axis and the observer.

8. *Frederick W. Lutz*, "The Kruesi Radio Compass for Commercial Use," 26 Aero Digest, Feb., 1935, p. 50. "Radio Compass," 35 Aviation, May, 1936, p. 24.

See also *Max Karant*, "Airlines Adopt Homing Devices," 20 Popular Aviation, April, 1937, p. 39.

REGULATION OF AIR NAVIGATION IN THE IRISH FREE STATE

JAMES L. BROWN*

A new law relative to air navigation and transport was enacted in the Irish Free State on August 14, 1936.[1] Designed to bring the legislation of that country affecting this important branch of transportation into harmony with modern needs, the law provides appropriate measures governing the operation of internal air service as well as the regulation of international aircraft which touch the boundaries of the Irish Free State.

Included in the scope of the law are a wide range of subjects which establish and control air service undertakings. Organization of a Government subsidized company and subsidiaries thereof is provided for, together with assistance to Aer Lingus Teoranta[2] and other air service undertakings. Aircraft used for the transport of passengers and goods as well as those used for pleasure flights, private hire, and inspection purposes must be licensed. The building and maintenance of aerodromes and appropriate appurtenances is encouraged by Government loans. The liability of the owner or licensee of the aircraft for injuries caused to persons or property and stipulated minimum and maximum damages are provided for. In addition to provisions relative to restriction of internal aircraft services, there are included, among other matters, sections on dangerous flying, and trespass and nuisance.

The law gives force and effect, in the Irish Free State, to the provisions of the Paris,[3] Warsaw,[4] and Rome Conventions,[5] and it is administered by the Minister for Industry and Commerce.

Air Service Undertakings

The Minister of Finance is empowered to prescribe the establishment of a limited liability company known as the Company, 3 of

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1. Air Navigation and Transport Act, 1936, Saorstat Eireann, Number 40 of 1936.
2. Air Line Limited (a privately owned air line operating between Dublin and England).
3. League of Nations Treaty Series, Vol. XI, page 173.
4. United States Department of State, Treaty Series No. 876.
5. United States Department of State, Treaty Information Bulletin No. 47, pp. 22, 27.

its 5 directors being nominated by the Government. The Government may hold part of the capital stock, the balance being subscribed for by public subscription. The Government may take up by subscription any shares in the Company to a value not to exceed one million pounds.

The Minister of Finance may loan the Company money to provide for its formation, registration and promotion. The Company may have subsidiaries and also obtain an interest in other air service undertakings. It may loan money to the Aer Lingus Teoranta. With regard to the payment of government subsidies to the Company by the Minister of Finance, an order therefor must be confirmed by resolution of the Dail Eireann. If the Dail Eireann has not acted upon the order within 21 days after its submission, it will come into force.[6]

The objects of the Company, include the establishment, maintenance, and working of lines of aerial conveyance between places in the Irish Free State and between the Irish Free State and other countries either directly or by means of Aer Lingus Teoranta and other transport undertakings in which the Company has a controlling interest. The Company may acquire and hold shares in Aer Lingus Teoranta and hold shares of other transport undertakings. It may also give with the consent of the Minister of Finance, financial and other assistance to such air transport undertakings. The Company also has power to issue debentures for the purposes for which it has been established. The amount of these debentures may not exceed the capital of the Company.[7]

Air service undertakings, whether as public transports for passengers and goods or for private hire, pleasure flights, or instruction purposes must be licensed to operate under penalty of law.

The Company, Aer Lingus Teoranta and every subsidiary company is required each year to furnish a balance sheet and statement of profits and loss to the Minister of Finance and any other particulars which may be required in relation to the activities of such company. The Company must furnish, whenever requested to do so by the Minister of Finance, such particulars as are within its power or possession which relate to any undertaking other than Aer Lingus Teoranta or a subsidiary company in which it holds an interest.[8]

Inspection of any books or documents of the Company, Aer Lingus Teoranta, and any subsidiary companies is provided for.

6. Section 79.
7. Second Schedule of the Air Navigation Act, see footnote 1, *supra*.
8. Section 81.

Any one obstructing an inspector or failing to produce such books or documents, if found guilty, will be liable to a penalty[9]

Control and Regulation of Air Service

The international carriage by air, insofar as the aircraft touches or passes over the Irish Free State, and as regards the rights and liability of carriers, passengers, consignors, consignees and other persons is governed in that country by the provisions of the Warsaw convention. The effect of force of law is given to that convention in the Irish Free State.[10]

Provisions of the Warsaw Convention will also apply to internal carriage by air when orders are issued relative to any provisions of that convention by the Executive Council.[11]

Provision is made in accordance with Article 17 of the Warsaw Convention for the liability of the carrier for the payment of damages caused by an accident which results in death or wounding of a passenger.

Establishment of Aerodromes

The Minister for Commerce and Industry may establish, and maintain aerodromes and provide in connection therewith roads, bridges, approaches, apparatus, equipment, buildings, and other accommodations. The law extends a similar power to any local authority with the consent of the Minister for Industry and Commerce.[12] To that end, land may be acquired by agreement or compulsorily. Land adjacent to an aerodrome may not be used in such manner as to cause interference with or danger or damage to aircraft approaching or leaving the aerodrome. Trees and buildings on land adjacent to an aerodrome may be demolished if deemed advisable for insuring the safety of aircraft approaching or leaving the aerodrome.[13]

When it is necessary that a local authority carry on a business which is ancillary to the operation of an aerodrome maintained by such authority, the Minister for Industry and Commerce may grant the local authority the power to conduct that ancillary business.[14]

The Minister for Industry and Commerce or a local authority may authorize any person to enter on any land for the purpose of making an investigation preliminary to the acquisition of such land.

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9. Section 82.
10. Section 17.
11. Section 20.
12. Section 43.
13. Section 36.
14. Section 38.

Authorization may also be granted to enter on any adjoining land in making a survey for the purpose of acquisition of any land the use of which is contemplated to be necessary for the establishment of an aerodrome. Any persons impeding or obstructing any authorized person in entering upon such land, will if convicted be fined in a sum not exceeding ten pounds.[15]

Whenever it is necessary to acquire compulsorily any land or acquire or use any right of impounding, diverting, or obstructing water, the Minister for Industry and Commerce may order, with the consent of the Minister for Finance and after consultation with the Minister for Agriculture, the acquirement of such land and right for the purpose of establishing and maintaining an aerodrome. Public notice thereof will be given and interested persons will be advised in order that any objection may be made thereto. In certain cases it may be deemed necessary to hold a public hearing at which interested persons may appear and be heard. Land belonging to any public utility such as a railway, electric, gas, or water company may not be compulsorily acquired.[16]

In the event an aerodrome is to be situated by the sea or a navigable inlet thereof, the Minister for Industry and Commerce after consultation with the Minister for Agriculture, may if it is in the public interest to do so, issue an order limiting or prohibiting navigation, fishing, or any other right in respect to any such part of the sea or inlet which may be adjacent to an aerodrome. If the right thus limited or prohibited is a private one, the owner thereof will be compensated.[17]

The Minister for Industry and Commerce or any local authority may with the consent of such Minister compulsorily divert, close, remove or otherwise interfere with any public road or bridge[18] If such road or bridge is thereby closed to traffic, a temporary road or bridge may be constructed in a convenient situation sufficient to carry such traffic. Upon completion of the work, the road or bridge will be restored to its former condition or a new permanent road or bridge will be constructed in its place.[19]

A local authority when establishing and maintaining an aerodrome may receive from another local authority, conservancy authority, or harbor authority a contribution toward the expenses incurred in establishing and maintaining such aerodrome.[20] The

15. Section 39.
16. Section 41.
17. Section 45.
18. Section 46.
19. Section 47.
20. Section 48.

local authority may borrow money for the purpose of defraying expenses incurred in the establishment and maintenance of an aerodrome. The local authority establishing and maintaining an aerodrome may appoint the necessary officers for that purpose.[21] The law further provides that nothing contained therein is to deprive the Minister for Posts and Telegraphs of any rights and remedies under Telegraph Acts of 1863 to 1928.[22]

Liability for Damage Caused by Aircraft

Where damage or loss is caused to any persons or property or land or water by an aircraft while in flight, taking off, or landing or where damage is caused by a person in an aircraft or by any article or person falling from an aircraft, the owner of such aircraft will be liable for such damage or loss. Proof of negligence, intention, or other cause of action on the part of the owner will not be required and such damage or loss will be considered as though caused by the willful act, neglect, or default of such owner, unless the injured person was guilty of contributory negligence.

In any instance where damages are recoverable and a legal liability for such damage or loss is created in a person other than the owner of the aircraft, the owner will be entitled to be indemnified by that other person against any claim for damage or loss.

Where any aircraft has been demised, let, or hired out to another for a period of more than fourteen days, the person to whom the aircraft was so demised, let, or hired out will be substituted for the owner in any action for damages resulting from injury or loss for which the owner would have been liable if the aircraft had not been so demised, let, or hired out, and provided that no pilot, commander, navigator, or operative member of the crew of such aircraft is in the employment of such owner.[23]

The law provides that in certain instances the liability for damages or loss shall not exceed in the case of an airship twenty-five thousand pounds, a baloon (fixed or free) five thousand pounds, or a glider one thousand pounds or in any other case a number of pounds equal to the weight of the aircraft fully loaded, unless that number of pounds would be less than five thousand pounds or more than twenty-five thousand pounds in which event the sum shall be five thousand pounds or twenty-five thousand pounds as the case may be. If the owner was not insured in accordance with the

21. Section 52.
22. Section 54.
23. Section 21.

compulsory insurance provisions of the law or had not on deposit with the Court of Justice a required sum of money, he may not claim the benefit of the foregoing limitation of liability. However, if the owner can prove that the aircraft was, at the time that the loss or damage was incurred, in possession or control of some other person without his authority or permission, he will be entitled to such benefit.

Any person liable for damage resulting from injury caused by an aircraft may not claim the benefits of aforesaid limitation of liability if at the time the damage was incurred, he was not the owner of the aircraft concerned and if he was in possession or control of such aircraft without authority or permission of the owner.[24]

Where there is more than one claimant for damages the Court may upon application of a person, determine the amount of liability and distribute it rateably among the several claimants. The Court may give directions for joining interested parties or for excluding claims not brought before it within a certain time. The Court may also require security from the person making the application.[25]

Where a cause of action subsists against or is vested in a person who has died such action shall survive against or for the benefit of his estate. Where a cause of action survives for the benefit of the estate of a deceased person and the death of that person was caused by circumstances which gave rise to the cause of action any damage which may be recoverable for the benefit of his estate will be calculated without reference to any loss or gain to his estate consequent upon his death. Where a cause of action has survived against the estate of a deceased person, no proceedings will be maintainable, unless at the time of death proceedings against him were pending, or unless such cause of action arises not earlier than six months after his personal representative took out administration.[26]

In the event of the insolvency of an estate against which proceedings are maintainable, any liability in such case will be deemed to be a debt provable in the administration of the estate, notwithstanding that it is a demand in the nature of unliquidated damages arising otherwise than by contract or promise.[27]

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24. Section 24.
25. Section 24.
26. Section 23.
27. Section 23.

Compulsory Insurance Against Liability

Unless the owner of aircraft is otherwise exempted by the law, he is obliged to insure against third party risks with an approved aircraft insurer. It is, therefore, unlawful to fly or to cause another to fly aircraft, unless there is in force a policy of such insurance against all liability which the owner may incur by damage caused to persons or property on land or sea in the Irish Free State by aircraft while in flight, taking off, or landing, or by any person in such aircraft, or by any article or person falling from such aircraft.[28]

Exempted Persons

Any owner of not more than two aircraft may be an exempted person and obtain a security certificate by making a deposit and keeping deposited with the Accountant of the Courts of Justice a sum of not less than five thousand pounds nor more than twenty-five thousand pounds, depending upon the kind of aircraft. However, in the case of a glider, the sum deposited must be not less than one thousand pounds.

Any owner of three or more aircraft who desires to become an exempted person may deposit and keep deposited a sum of not more than fifty thousand pounds with the Accountant of the Courts of Justice.[29]

The money so deposited with the Accountant will be invested and any income accruing from such investment shall be paid to the depositor. The Accountant of the Courts of Justice will not accept a deposit except on a warrant of the Minister for Industry and Commerce.[30] Deposits may be paid to satisfy a judgment of a creditor and any investments which have been made as a result of such deposit may be sold to satisfy such judgment.[31] The depositor at all times must maintain the required deposit with the Accountant.[32]

The high court may upon application direct that any sum upon deposit be paid to the depositor or a person claiming through or under him.[33]

The law provides that the Minister for Industry and Commerce may make appropriate regulations in regard to applications

28. Section 25.
29. Section 30.
30. Section 30.
31. Section 31.
32. Section 29.
33. Section 32.

for security certificates, the issuance of new certificates in place of those that have been lost, and the carrying of documents in aircraft and their production on demand of a specified person.[34]

Trespass and Nuisance by Aircraft

No action for trespass or for nuisance will lie by reason only of the flight of the aircraft over any property at a height above the ground which is reasonable considering the wind, weather and all the circumstances of the case as well as ordinary incidents of the flight, provided, the provisions of the law are otherwise complied with.[35]

Dangerous Flying

The pilot or the person in charge of the aircraft and the owner, unless the latter is the pilot or person in charge of the aircraft, will be severally guilty of a punishable offense where an aircraft is so flown as to cause unnecessary damage to any person or property. The fine imposed on conviction of such an offense may not exceed two hundred pounds and the guilty persons will in the discretion of the court be liable to imprisonment for a term not exceeding six months or both fine and imprisonment. The hirer of an aircraft may under such circumstances be liable. The owner of the aircraft will not be liable if he can prove that on the occasion when the offense was committed the aircraft was being flown without his fault or privity.[36]

Infringement of Patents

If it is alleged by any person that a foreign aircraft passing over or landing in the Irish Free State is, in whole or in part, an infringement of an invention, design, or model protected in the Irish Free State, the aircraft may be detained pending deposit of security. This deposit shall be in an amount agreed upon between the interested parties. If the parties cannot come to an agreement, the Minister of Industry and Commerce or a person authorized by him will determine the amount which must be deposited.[37]

A Union for the Protection of Industrial Property was established by a convention signed at Paris on March 20, 1883, and subsequently revised at Brussels December 14, 1900, at Washington

34. Section 33.
35. Section 55.
36. Section 56.
37. Section 61.

June 2, 1911, and at The Hague November 6, 1925. A provision relative to the infringement of the rights of the patentee resulting from anything used in the construction or functioning of the engines of locomotion for air was included in a new article (5 ter) which was adopted in the revision signed at The Hague.[38] Article 5 ter is as follows:

> "In each of the contracting countries the following shall not be considered as infringing the rights of the patentee:
>
> 1. The use on board ships of other Unionist countries of anything the subject matter of his patent in the body of the ship, in the machinery tackle, apparatus, and other accessories when such ships enter temporarily or accidentally the waters of the country, provided that such thing is employed there exclusively for the needs of the vessel.
>
> 2. The use of anything the subject matter of the patent in the construction of or functioning of the engines of locomotion for air or land of the other Unionist countries, or of the accessories of these engines, when these enter the country temporarily or accidentally."

The Irish Free State has not as yet ratified The Hague convention and although a member of this Union it is bound only by the revision signed at Washington which made no reference to patent infringement in aircraft. When that country ratifies The Hague revision, the liability of the owner of the aircraft with regard to patent infringement would be governed by the provisions of the convention.

Detention of Aircraft

Any authorized person may detain aircraft to secure compliance with any provisions of law or to prevent such aircraft from flying when it is unfit to fly. When any detained aircraft which takes off or attempts to take off before it is released by competent authority the persons liable therefor will be subject to a fine not exceeding one hundred pounds.[39]

Wreck and Salvage

Any services rendered in assisting in saving life, or in saving the cargo or apparel of an aircraft at sea or any tidal water or the shores thereof, are deemed to be salvage services in those cases where they would have been such if rendered in relation to a vessel.

38. See, Patented Inventions on Ships and Airplanes, p. 46, "Industrial Property Protection Throughout the World," T.P.S. No. 165, U. S. Government Printing Office, Washington, D. C.
39. Sections 63, 64.

Where any salvage services are rendered by an aircraft to any person or property the owner of the aircraft will be entitled to the same reward as though the aircraft had been a vessel.

The provisions of the law relative to salvage services have effect notwithstanding that the aircraft is a foreign aircraft and that the services are rendered outside the limits of the territorial waters of the Irish Free State.

Provisions of any law relating to wreck, salvage of life or property, or the duty of rendering assistance to vessels in distress will when ordered by the Executive Council apply to aircraft.

Any provisions of law relating to vessels laid by or neglected as unfit for sea service are deemed to relate to wreck.[40]

In addition to the provisions of 103 sections contained in the act there are included two schedules, the first containing the text of the International Convention for the Unification of Certain Rules relating to International Carriage by Air, adopted at Warsaw on October 12, 1929, and the second containing Conditions to which the Company is to Conform.

40. Section 57.

EDITORIALS

FRED DOW FAGG, JR., DIRECTOR OF AIR COMMERCE

On March 1, 1937, was announced the appointment by the Secretary of Commerce, of Fred Dow Fagg, Jr., as Director of Air Commerce.

Mr. Fagg's career in the realm of aeronautics has been a notable one. Born at Brooklyn, N. Y., on July 30, 1896, the son of Fred Dow Fagg and Ida Alzine Chase Fagg, he spent his early youth in California, whither the family had removed. In 1920, he was graduated from the University of Redlands; then in the Graduate School of Harvard University he specialized in the economics of transportation, received the degree of A.M., and was appointed assistant in economics.

Meanwhile he had in the World War obtained his practical aeronautical experience. While still in college at Redlands, he volunteered and was trained at San Diego, and was commissioned 2nd lieutenant, pilot in the 92nd Aero Squadron A. E. F., and in 1917-18 served overseas where in the British area he was assigned to night bombing patrol duty over the English Channel.

In 1923 he came to Northwestern University as instructor in economics, at the same time pursuing the law course and receiving the degree of J.D. in 1927. The University of Southern California in that year appointed him associate professor of economics, and while in that institution, he was designated as exchange professor of air law on a foundation providing for a one-year's exchange with the University of Königsberg, in Germany, where an Institute of Air Law had recently been established. On the expiration of this appointment, he accepted a call to be professor of law in Northwestern University.

His experience as a practical aviator, his legal training, and his special acquaintance with international development of air law —all these circumstances led to the proposal, made to him by the Dean of the Law School, to found in Chicago an Air Law Institute for the United States. A fund was collected, sufficient to maintain the Institute for three years, and Mr. Fagg became the managing director. The subscribers were the Daniel Guggenheim Fund for the Promotion of Aeronautics and such Chicago friends of aeronautics as Robert R. McCormick, Earle H. Reynolds, Edward D'Ancona,

Elias Mayer, Melvin Emerich and Martin Straus. This fund was long ago used up, and the Institute now is supported solely by Northwestern University and has become the clearing house for information on aeronautical law; and the JOURNAL OF AIR LAW, with Mr. Fagg as its Editor-in-Chief, has become the leading publication devoted exclusively to its field.

Meanwhile he was made a member of the Illinois Aeronautics Commission and thus functioned actively in connection with practical aeronautics and obtained experience in the administrative aspects of government control of aviation. In 1932 he was elected secretary of the National Association of State Aviation Officials, and retained that post until entering upon his present duties. In that office he has come into close contact with those engaged in all branches of the aviation industry.

In 1934-35 he acted as legal advisor to the Federal Aviation Commission, appointed by the President to report upon the whole subject of aviation policies. In 1935 he acted as legal counsel to the United States Senate Subcommittee on Aircraft Accident Investigation. And since the summer of 1936 he has been acting as Consulting Expert to the Bureau of Air Commerce in the general revision of the air regulations now under way.

In the international field, he has worked with many European leaders and in 1934 was appointed by the Secretary of State to be one of the four members of the American Section of the Comité International Technique d' Experts Juridiques Aériens (CITEJA).

This record of varied experience is some index of the aptness of his appointment to the position of Director of Air Commerce. It may be hoped that his appointment will be received with satisfaction by all sections of opinion in the great realm of aeronautics, both national and international.

JOHN HENRY WIGMORE.

HOWARD C. KNOTTS, EDITOR-IN-CHIEF OF THE JOURNAL OF AIR LAW

On April 5th Dean Leon Green of Northwestern University Law School had the honor to announce the appointment of Mr. Howard C. Knotts of Springfield, Illinois, to the position of Editor-in-Chief of the JOURNAL OF AIR LAW to succeed Mr. Fred D. Fagg, Jr., who held that position since the founding of the JOURNAL in 1930 until March 1st, 1937, when he assumed his duties as Director of Air Commerce.

Mr. Knotts, a graduate of Knox College and Harvard University Law School, is exceptionally well qualified to succeed Mr. Fagg. He brings to his office not only a keen and sympathetic insight into the practical problems of an industry destined for phenomenal development, but a familarity with its legal problems—state, national and international.

After a distinguished military career during the years 1917-1919, in which he served as Second Lieutenant and pilot in the 17th U. S. Aero Squadron, A.E.F., was twice wounded in action, credited with eight enemy aircraft, and awarded the Distinguished Service Cross, Purple Heart (Oak Leaf Cluster), Silver Star Medal and the Distinguished Flying Cross (British), Mr. Knotts returned to Harvard Law School to complete his interrupted legal studies. After being graduated in 1921 with the degree of LL.B., he entered into the general practice of law in Springfield and is at present senior member of the firm of Knotts and Dobbs of that city.

His early association with aviation gave him the opportunity after the War to assist in its development by serving in many capacities, promotional as well as regulatory, official as well as semi-official. From 1927-1933 he was chairman of the Aviation Committee of the American Legion, Department of Illinois; and from 1929-1931 was Secretary of the Illinois Aerial Navigation Commission. He was co-author with Mr. Fagg of the Illinois Aeronautics Act as originally adopted and later amended, which act created the present Illinois Aeronautics Commission and is the basis of the uniform state aeronautical acts adopted and recommended by the American Bar Association, the National Association of State Aviation Officials and the Conference of Commissioners on Uniform State Laws. He was one of the promoters and organizers of the First National Legislative Air Conference, held at Chicago in 1930, and was also a delegate from Illinois to the National Conference on Uniform Aeronautic Regulatory Laws called by the Secretary of Commerce at Washington, D. C., in the same year. Since 1932 he has served on the Editorial Advisory Board of the JOURNAL OF AIR LAW.

An expert in public utility law as well as air law, Mr. Knotts holds the position of Aviation Supervisor of the Illinois Commerce Commission as well as special assistant attorney general for the State of Illinois in connection with appeals from the Illinois Commerce Commission orders involving transportation, gas, electric and water utilities. Since 1934 Mr. Knotts has been on the Faculty of

Northwestern University Law School as Illinois Law Lecturer on public utility law.

At present he is also Chairman of the National Aeronautics Commission of the American Legion, Chairman of the Section on Aeronautical Law of the Illinois State Bar Association, a member of the Advisory Committee to the United States members of the Comité International Technique d'Experts Juridiques Aériens (CITEJA) and Secretary of the National Association of State Aviation Officials.

REORGANIZATION OF THE BUREAU OF AIR COMMERCE

On March 1st, 1937, Secretary of Commerce Daniel C. Roper announced the resignation of Eugene L. Vidal as Director of Air Commerce and the appointment of Fred D. Fagg, Jr., as his successor. In his letter of resignation to the Secretary of Commerce, Mr. Vidal said:

"As you know, I have desired for some time to be relieved of my duties as Director of Air Commerce in order to take advantage of some very attractive offers from the aviation industry which also will permit me to contribute to aviation's progress. I have remained in the Government service this long because I was eager to accomplish a number of objectives which I had established for myself when I entered the Bureau nearly four years ago.

"I wish to express my appreciation for the continued friendship and support of yourself and your assistants, and my desire to be called upon at any opportunity to be of service."

Mr. Vidal's resignation came after four years of service as Director of Air Commerce. Due to the extensive and remarkable development in the aviation industry during that period his task became indeed a difficult one. His resignation for the purpose of entering the private aviation business carries with it the wishes of his many friends for his great success. The extent to which his services as Director have been valued and appreciated is indicated by the letter of Secretary of Commerce Roper accepting his resignation:

March 1, 1937.

Dear Gene:

I accept your resignation as Director of the Bureau of Air Commerce with deep regrets. I have been aware for some time of your desire to get back into business. My regrets over your resignation as Director are somewhat alleviated by the fact that you have agreed, upon our request, to remain associated with the Bureau in an advisory capacity until the plans for the enlarged expenditures contemplated in the estimates now before the Congress have been completed, or until you become connected with the industry.

You have guided the Bureau through a period of great development and no one could have been more loyal to the Government, more devoted to the development of air commerce, or more cooperative with me than you have been throughout your practically four years service.

You carry with you my kindest personal regards and my very best wishes for your future success and happiness.

Very sincerely,
DANIEL C. ROPER,
Secretary of Commerce.

Mr. E. L. Vidal,
Director, Bureau of Air Commerce,
Department of Commerce,
Washington, D. C.

Under release of March 1st, the Department of Commerce made the following statement:

"Mr. Vidal's last official act was to organize a Safety Research and Development Section in the Bureau of Air Commerce which will embrace all safety research and development work of the Bureau. This section also will include a committee representing all phases of Federal, commercial and private aviation which will advise the Bureau as to the projects most urgently in need of investigation, research, experimentation and development.

"Mr. Vidal, an army and civilian pilot of more than 15 years' experience and a former airline organizer and executive, was appointed an Assistant Director of the Bureau of Air Commerce in June, 1933, and four months later was elevated to the post of Director. Credited to him during his administration are many accomplishments which are in addition to the regularly prescribed duties of his office.

"In the matter of airline regulation, Mr. Vidal established a separate airline inspection service within the Bureau and secured an amendment to the Air Commerce Act authorizing the Department to regulate airline operations as to safety. Other steps taken included promulgation of a complete new set of airline regulations which embraced such important provisions as the requirement of multi-engined aircraft for flying in and above fog and over unfavorable terrain; ceiling limitations at airline terminals; designation of special airline pilot medical examiners and more frequent physical examinations for this grade of pilot; reduction in total monthly and yearly flying hours for airline pilots; Federal approval of airline dispatchers and establishment at congested airline terminals of a system of airways traffic control to prevent possible aircraft collisions.

"With the objective of aiding the aircraft manufacturing industry in production and sales, Mr. Vidal obtained Congressional authority to engage in development work on aircraft, engines and accessories. To this end he undertook a development program, with limited funds, on types of aircraft suitable for the novice pilot. This program has resulted in four new and different types being in commercial production, two of the non-stall-spin variety. Further, extensive interest has been focused on the three wheel landing gear which some of the Bureau models feature and which has been acclaimed as revolutionizing the operation of landing and taking off of air-

craft. Steps now are being taken in various quarters to develop this type landing gear for larger aircraft. Other Bureau safety contributions include a device for eliminating ice from propellers in flight; development of ice-free carburetors for aircraft engines and a brake for propellers to be applied in flight in event of an engine failure; and perfection of the radio typewriter for transmission of weather reports.

"Taking the position that greater public confidence in aviation could be obtained if the secrecy surrounding causes of accidents were removed, Mr. Vidal sponsored a Congressional amendment authorizing the Department of Commerce to hold public hearings and make public the probable causes of aircraft accidents. Since the summer of 1934, more than a score of public hearings have been held and public statements issued on all major aircraft accidents.

"Although forced by the Government's economy program to operate the Bureau on funds 40 per cent less than in the past, Mr. Vidal was able to obtain financial assistance from other sources for aviation in general. Recognizing that aviation would prove an excellent outlet for the Government's unemployment relief program, he sought and obtained what eventually resulted in the expenditure of approximately $60,000,000 for airport development work at 950 different locations and an air marking program for the entire country. In this work the Bureau acted as technical adviser to the W. P. A. and its predecessor organizations. Also from P. W. A., Mr. Vidal obtained funds for the survey and construction of about 5,000 miles of new and relocated Federal airways. Further, he obtained the necessary funds and completed in two years the gigantic program of airmapping the entire United States so that airmen could be furnished with current and accurate air navigation charts for any part of the country.

"In addition to the remarkable growth of air transport, Mr. Vidal has seen private flying expand in every respect during his period in office. A valuable index into the growth and current interest is obtained from the record of active student pilot licenses. In 1933, when he took office, the number was 7,500. Today it is 32,400. Likewise, the production of private aircraft, particularly of the smaller type, has increased and the price has declined steadily with the increase in production.

"From the recent airline safety conference called by the Department, a number of specific steps are being taken to provide for greater safety. Among these are the requirements by the Bureau of an auxiliary system of air navigation and of the installation of directional and homing devices and antistatic shielded loop antenna on all airliners; imminent promulgation of approved type certificate regulations for airliner radio receiving and transmitting equipment; installation of an automatic 'air log' on airliners to record the movements of the craft at all times; and more exacting navigational training for airline pilots. The Bureau itself has undertaken to install stations which it has developed to transmit radio beacon signals and voice simultaneously; provide more detailed radio maps and expedite the installation of airport approach lights to facilitate landing under conditions of poor visibility; and will accelerate its study and research regarding pilot's mental and physical limitations."

In regard to the appointment of Mr. Fagg the following statement was issued, also under date of March 1st:

"Under a reorganization program, Fred D. Fagg, Jr., will succeed Eugene Vidal as Director of the Bureau of Air Commerce, Mr. Vidal acting in an advisory capacity for the present.

"Major R. W. Schroeder, Chief of the airline inspection service, has been named Assistant Director of the Bureau. Rex Martin, Assistant Director of the Bureau in charge of navigation, has been assigned to a study mission in Latin America. Col. J. Carroll Cone, Assistant Director of the Bureau in charge of regulations, has been given a similar mission to Europe.

"In commenting on the new plan of operations, Secretary Roper made the following statement:

'Development of air commerce in the United States during the last four years has been nothing short of phenomenal. Major problems have been encountered because of the fact that we have been exploring in the field of unknown factors. Notwithstanding the many difficult problems, we have developed rapidly in scientific achievement and human training, as well as in manufacturing technique, with the result that the American people are rapidly becoming more adjusted to this modern mode of transportation, and we are holding first place among aeronautical nations of the world. The extensive development of the industry at home required larger expenditures to implement the great industry.'

'The time has also come to extend our studies into the world trade field. Aviation is one of the industries which is not bound by State lines or international frontiers. It is an industry in which the countries of the world can cooperate in the interest of economic improvement through the establishment of safe trade, guided by understanding and good will.'

'For these larger studies, the Bureau of Air Commerce of the Department of Commerce is being given a wider sphere in which to carry on its development work. Congress, through adequate appropriations for 1938 now under consideration, will enable us to plan in a larger way for carrying forward further domestic development with proper attention to the promotion of safety for life and property. To this end Mr. Fred D. Fagg, Jr., of Northwestern University, Chicago, is being appointed Director of the Bureau. One of the most important features in this development is the study and application of the regulations as they apply to field service. Mr. Fagg has been devoting much time to this responsibility and is unusually well prepared for this phase of the work and for effectively utilizing the increased appropriation. Mr. Fagg will have the expert assistance of Major R. W. Schroeder, whose broad experience should also be valuable in the successful development of the enlarged program.'

'For the study of the opportunities for the development of trade through air commerce in other countries of the world, Mr. Rex Martin, who has been in the Bureau for four years, is being assigned to these major studies in Latin America. Col. J. Carroll Cone, who for four years has specialized in regulations, is exceptionally well prepared to make our studies in the European field.'

'Mr. Eugene Vidal, who has been Director of the Bureau for four years and under whose supervision, supplemented by that of Mr. Martin and Col. Cone, remarkable development has taken place, is resigning voluntarily from his position for the purpose of eventually entering private business. However, until our plans have been fully developed, he has kindly consented to assist us in an advisory capacity in launching the new and enlarged program.'

'The officials who are to make the studies abroad will work in connection with the foreign commerce officers of the Bureau of Foreign and Domestic Commerce stationed in the several countries and furnish them with technical information and guidance on transportation and communication between American exporters and foreign markets. In addition they will seek opportunities for American aeronautical trade and supply the Department of Commerce with technical data on commercial aviation throughout the world and furnish information to the Secretary of Commerce vitally necessary in the always delicate negotiations involved in the establishment of international air routes and services.'

"The program of expanded service to American business is in line with Secretary Roper's policy of maintaining the closest possible contact with foreign markets for the purpose of gaining more enlightened knowledge of consumer needs and supplying the demand in the most expeditious manner possible.

"In commenting on this phase of the objectives of the new study program, Secretary Roper said:

'Mutual understanding of the interrelationships of the countries of the world is the safest guide to peace, while improved economic conditions through a free flow of commerce is an essential element in the maintenance of that peace.'

"In addition to the studies that will be made looking to the expansion of aviation, the program for the promotion of foreign trade also includes cooperative studies of the various modes and costs of communication with consideration to the possibility of a short-wave radio development for world-wide broadcasting similar to that now in successful operation in other countries as a means of acquainting the world with our facilities for expanding foreign trade.

"In addition to practical knowledge gained from aviation service during the World War, Mr. Fagg has broad legal and economic background and is widely known throughout the aviation world. His career has been particularly outstanding in the field of international aviation law.

"Mr. Fagg comes to the Bureau from Northwestern University, Chicago, where, in 1929, he founded the Air Law Institute and has continuously served as its director in addition to editorial duties on 'The Journal of Air Law.' He previously spent a year in Germany where the first Air Law Institute was formed in 1926.

"Mr. Fagg's most recent work has been as consulting expert on the revision of air commerce regulations for the Department of Commerce in which he was assisted by Col. John H. Wigmore, dean emeritus of Northwestern University Law School. Mr. Fagg was also associated with Col. Wigmore as adviser to the Copeland Senate Committee on aircraft safety.

In 1934-35 they served the Federal Aviation Commission, appointed by the President, in a similar capacity.

"Mr. Fagg is a native of Brooklyn, New York, and was educated at San Diego Army & Navy Academy, University of Redlands, Harvard University, and Northwestern University. Having been under age for a commission in any branch of the military service at the beginning of the World War, he expressed his interest in aviation by taking ground school training at Berkeley, Calif., completing his class in December, 1917, as squadron commander. He then took flight training at Rockwell Field, San Diego, followed by advanced training at Ellington Field, Olcot, Texas. He was one of 48 out of a class of 600 flying officers to be attached to a British night-bombing squadron with headquarters at Sussex, England. After his discharge in December, 1918, he resumed his legal advisory and instruction work in aviation and is considered an authority on law and procedure.

"Mr. Fagg has been a member of the Illinois Aeronautics Commission since it was organized in 1931; secretary of the National Association of State Aviation Officials since 1932; member American Section, International Technical Committee of Aerial Legal Experts, now meeting in Berne, Switzerland. He was a member of the American Bar Association Committee on Aeronautical Law and co-author of the Illinois aeronautics legislation, used as a model for the Uniform State Aeronautical Regulatory Act."

STATE REGULATION

REPORT OF THE MASSACHUSETTS COMMITTEE FOR AERONAUTICS

The Special Commission[1] appointed by the Governor of the Commonwealth of Massachusetts in 1935 to promote and coordinate the commercial and military aeronautical activities within the Commonwealth, on January 12, 1937, reported to the Senate and House of Representatives the results of its work in House No. 1540.[2]

In addition to a statement of the work accomplished in connection with the development and improvement of airports and airways within the Commonwealth, the report presents the following conclusions and recommendations of the Committee regarding Air Law and Legislation, a New England Army Air Base, and Education in Aeronautics:

Air Law and Legislation

The law of the airport and of aviation generally is partly the law of the air, partly the law of the earth. Aviation is a new thing in the world, and the legal principles relating to it have by no means as yet been fully established. More nebulous in the air, more definite on the earth, this law is in process of rapid evolution.

This brief, prepared by the Division of Air Law and Legislation, Committee for Aeronautics of the Commonwealth of Massachusetts, is not intended to be authoritative or exhaustive.

Already there is an increasing interest in private ownership and operation of airplanes. This prospect of renewed activity among private flyers imposes an added responsibility upon the Bureau of Air Commerce and upon the commissioners of aeronautics of the States. We face the obligation of perfecting our routines of handling regulatory problems and of making regulation uniform throughout the country as rapidly as possible, in order that we shall not retard progress. It is important for the future of private flying that licensing regulations be the same throughout the country. Nothing will discourage private owners so much as running into a new set of complicated air rules every time they cross a state line.

Each State has individual problems with which it must cope. It has a certain number of pilots who are operating within the borders. It wants to be sure these pilots have proper regard for safety; that they are not imposing upon the rights of others by flying low over cities or outdoor sporting events. It wants to be assured that the airports which its citizens have established at considerable expense are not made hazards by erection of buildings or other obstructions on land contiguous to the airport landing

1. Membership of the Committee for Aeronautics is as follows: General William I. Rose, the Adjutant General of the Massachusetts National Guard, *Chairman;* Stedman Shumway Hanks, Lieutenant-Colonel, United States Air Reserve, *Technical Adviser;* Honorable William F. Calahan, the Commissioner of the Department of Public Works; Honorable Charles P. Howard, Chairman, Commission on Administration and Finance of the Commonwealth.

2. Presented by the Speaker, under House Rule 39, and referred to the committee on Highways and Motor Vehicles, January 12, 1937.

areas. All States have these individual problems, but they are all pretty much alike and they can be solved by uniform requirements and procedures. The airplane has certain inherent advantages which have enabled it to assume an important rôle in the transportation set-up of this country. It is the fastest mode of travel; it can take the most direct route. Further development of aviation should not be hindered or restricted, but rather should be encouraged.

The States can begin by studying their mutual problems. Each one has to make flying safe by making certain that aircraft operations are carried out by competent airmen flying airworthy aircraft. It wants a sufficient number of adequate airports and air markings. It wants information about these facilities to be available to all airmen operating in the State, and to all those in other States who may fly to its airports. After studying its own aeronautical situation and learning as much as possible about other States, it must be in constant contact with other state officials throughout the country for exchange of ideas and experience. Upon the basis of this study and exchange of ideas it may be necessary to modify legislation on the statute books of the State. The State can serve its own interests in no better way than by enacting laws uniform with those of other States. Enforcement of aeronautic regulations will always be a major problem. With uniform state laws, the question of what regulations are required will not be so difficult. Finally, the States will find that although they have settled upon a uniform method of regulating aeronautics, this uniform law will not continue to serve its purpose without revision. Consequently, they will find it advantageous to study trends and make recommendations from time to time in regard to such revisions.

The report of this Division, therefore, is an attempt to give in outline the present state of the law for the purpose of an understanding of legal problems regarding the current status of aviation, and also as a basis for future legislative action.

Jurisdiction

In the United States the full power of government is divided between the Federal government and the government of the individual States, these States having, by the Federal Constitution, ceded to the nation certain powers deemed to be of a national scope, but having retained for themselves the remaining powers.

Federal

Unquestionably Congress has the power, under the commerce clause of the Constitution, to regulate interstate commerce. Mr. Chief Justice Taft, in *Railroad Commission* v. *C., B. & Q. R.*, declared:

> Commerce is a unit and does not regard state lines, and while under the Constitution, interstate and intrastate commerce are ordinarily subject to regulation by different sovereignties, yet when they are so mingled together that the supreme authority, the nation, cannot exercise complete effective control over interstate commerce without incidental regulation of intrastate commerce, such incidental regulation is not an invasion of State authority.

Therefore the Federal government may regulate local flying as far as may be necessary to make interstate aviation safe and otherwise free from unreasonable local interference.

State

Except for the power which by the United States Constitution it has surrendered to the nation, a State is sovereign within its limits. The State, except for the power to set aside certain air spaces for national purposes, has made no surrender to the national government of jurisdiction over the air space above it, as such, or of jurisdiction over aviation, except in the matter of interstate commerce. The State therefore, on principles fully established with regard to transportation on land and water, has the right to control aviation, as follows:

1. It may pass additional regulations on matters which the United States has power to regulate, and has done so, provided the state regulations are not in conflict with those of the nation.

2. It may in general regulate matters with relation to which the United States has regulatory power and has not exercised it at all.

3. It may pass regulations with regard to matters over which the United States has no jurisdiction.

In fact, the different States have enacted legislation and made rules along all the three lines above indicated. Thus, for instance, Massachusetts and other States have required pilots and the owners of planes in interstate commerce holding United States licenses to register with the state authorities; they have required all intrastate fliers and the owners of planes engaged in intrastate flight, for commerce or pleasure, to take out state licenses, exempting them from these requirements if they have voluntarily obtained United States licenses; and they have laid down traffic rules for fliers not engaged in interstate commerce, adopting the United States flying rules. Indeed, for uniformity, state laws in general have in every way endeavored to make state flyers of all sorts take out Federal licenses and follow the Federal traffic rules.

Rules and regulations relating to aircraft in Massachusetts are promulgated by the Registrar of Motor Vehicles of the Commonwealth of Massachusetts, and were approved January 28, 1936, to take effect as of February 1, 1936, by the Commissioner of Public Works.

In the absence of legislation, such as is found in the Uniform Airports Act, the general field of municipal law must be looked to in order to determine the answer of any question regarding purchase, condemnation, etc., of land for the purpose of construction and maintenance of airports.

Public airports, and also commercial airports of certain classes when suitably located, adequately developed, and properly operated, are not only utilities of convenience and necessity to the general public, but in many cases are of direct value to the neighboring land, planned with reference to them. Conflicts of interest between the airport and its more immediate neighbors cannot, however, always be avoided, and it is therefore proper to consider the protection which the law may afford the airport in such cases, first studying the general principles of law involved and then taking up the specific measures based upon them.

Courts have held that eminent domain is the right of a government to take and appropriate private property to public use whenever the exigency requires it. It is not necessary that the entire community, or any considerable portion of it, should participate in an improvement to constitute it a public use. The statutes are quite definite in regard to the taking of land for the building of highways thereon. If it is necessary to acquire land for the purpose of a state highway outside the limits of an existing way, the Department of Public Works is empowered to take the same by eminent domain on behalf of the Commonwealth.

A landing strip (emergency field) as defined by the Uniform Aeronautical Code, which has been recently incorporated into chapter 90 of the Massachusetts General Laws, is an area, either land or water, which is available for the landing and take-off of aircraft, having not less than 200 feet of usable width and 800 feet of usable length. Such a landing strip (emergency field) is a creation of the Aeronautical Code, whereas the "flight strip" is a new phase of highway development.

A "flight strip" is a flat area, 200 to 800 feet wide, more or less, and 1,800 to 5,000 feet long, more or less, located adjacent to the highway, on publicly owned land. These "flight strips" may be from 15 to 50 miles apart. The term "flight strip" should not be confused with the statutory definition of the landing strip (emergency field), inasmuch as the "flight strip" is included within the highway right of way, and is laid out and constructed by the same authority as is in charge of the highway. A "flight strip" is not only adjacent to a highway, but is a part of the highway right of way itself, which is not necessarily the case of a landing strip.

The Department of Public Works in Massachusetts can only take land under existing law for highway purposes. If "flight strips" are to be made a part of the state highway program, and this new phase of highway development placed in the Department of Public Works, new legislation will probably be needed.

If any authority is to be set up to handle "flight strips," they should be made a part of the highway development and placed under the jurisdiction of the highway engineers, because the State Department of Public Works, while working on the highways, can use its trained personnel and equipment to maintain and develop areas for "flight strips" adjacent to these highways. The law should also provide that, as the highway engineers are fully qualified to do highway work, their services can also be used by the State Department of Public Works on "flight strips."

Although the law in Massachusetts already provides for landing strips (emergency fields), this State has not as yet developed any areas adjacent to a highway which will serve as an example for the legal status of a "flight strip." In other States, so-called landing strips (emergency fields) have also been developed and maintained without special legislation. The development of some strips and fields are therefore *in statu quo*, without any specific legislation.

As "flight strips" relate directly to road transportation, which automatically becomes the responsibility of the various state highway departments, any state laws relative to "flight strips" should be conceived as part of existing highway and motor vehicle laws.

As Federal and state funds are used in the development of highways, and will therefore also be used in the development of "flight strips," these areas adjacent to highways would be available for trucks or other carriers used in the transportation of the United States mail.

The use of "flight strips," therefore, as recognized Federal depots for the transfer of the United States mail, might, in some cases, be used by the Post Office Department as official transfer stations for the railway mail service.

Air mail always has to be transferred from the airplane to some carrier on the highways. The logical department which would co-ordinate the air mail pouches with the United States mail trucks would be the Highway Department, in order that there shall not be two agencies for the handling of mail on the ground, which is a broad highway purpose. This co-ordination of air mail with railroad and motor truck mail is one of the recognized purposes of the Highway Department programs.

As in all matters of law, the interpretation of public policy rests with the courts. As no State has yet obtained a judge's decision on the extent to which public policy will permit "flight strips" to be used, each State must make its own interpretation with the installation of each individual "flight strip."

It is possible that several "flight strips" will be constructed in Massachusetts in the near future. Therefore the Division of Air Law and Legislation proposes the following slight changes in statutes after the matter has been referred to the National Conference of Commissioners on Uniform State Laws:

1. Under chapter 90, section 35, we find the definition of "landing strip." This Division suggests that the term "landing strip" be changed to read "emergency field."

2. Under chapter 90, section 38, the third sentence, we find the following: "No aircraft carrying mail, passengers or express for hire, except in the case of an emergency, shall land upon or take off from any area in the commonwealth, other than an airport, landing field or landing strip." This Division suggests that the sentence quoted above be changed to read as follows: "No aircraft carrying mail, passengers or express for hire, except in the case of an emergency, shall land upon or take off from any area in the commonwealth, other than an airport, landing field, emergency field or flight strip."

3. In conjunction with the proposed Uniform Airports Act, which the Division of Air Law recommends for enactment in the Commonwealth, this Division also recommends that the provisions of this proposed act be enlarged upon to include "flight strips"; *i. e.*, in regard to "flight strips" being a "public purpose" within the meaning of chapter 79 of the General Laws for the purpose of condemning such property as is necessary, to take same by eminent domain in order to use such land in the construction of "flight strips."

4. No change, at the present time, is recommended in regard to the organization in control of aeronautics in Massachusetts. Although, as we can see by the chart (see Exhibit F), many States have enacted the Uniform State Aeronautical Regulatory Act, Massachusetts finds it quite expedient to utilize the experienced personnel of the Public Works Department and Registry of Motor Vehicles for the advancement of aeronautics.

As can readily be seen in the reading of Chapter 90 of the Massachusetts General Laws (Tercentenary Edition), the present set-up in Massachusetts has certain advantages over the proposed aeronautics commission recommended under the Uniform State Aeronautical Regulatory Act. In this Commonwealth the Registrar of Motor Vehicles is empowered to enforce such rules and regulations as he may deem necessary or advisable for public safety and for the promotion of aeronautics, etc. The Registrar is further empowered to prescribe and enforce such rules and regulations as he may deem necessary or advisable for the safety of aircraft and airmen. The Registrar is also empowered to appoint an advisory board of aeronautical experts, who shall meet at least bi-monthly and who shall annually submit to the Commissioner of Public Works such recommendations as they may deem necessary or advisable. The Registrar of Motor Vehicles is appointed by the Commissioner of Public Works, with the advice and consent of the Governor and Council. The funds expended by the Registrar in the promotion of aeronautics are supplied by the Department of Public Works. This set-up tends toward greater efficiency and eliminates overlapping of powers and duties which one would find if there were a multiplicity of departments having similar engineering functions. Thus, if the Commissioner of Public Works were to condemn land and take it by eminent domain for the purpose of constructing and maintaining an airport, it would not be necessary to purchase machinery and other necessary equipment in order to accomplish the ends for which the property was taken. However, under the commission suggested by the proposed "Uniform State Aeronautical Regulatory Act," additional legislation would be necessary, additional funds would of necessity have to be secured, additional equipment would have to be purchased, and engineers, laborers and others, which at the present time constitute the personnel of the Department of Public Works, would have to be retained.

The modern trend of municipal and state governments is to consolidate executive departments which have similar functions. To create a new engineering department in the Commonwealth would be a backward step and would not be in keeping with modern times.

Therefore, after having carefully studied the aeronautic commissions of various States, the Division of Air Law and Legislation of the Committee for Aeronautics of the Commonwealth of Massachusetts suggests that for the present the destiny of aeronautics in Massachusetts be left in its present efficient hands.

However, a few slight changes may be made to the advantage of our present set-up. According to section 45 of chapter 90 of the General Laws, as amended, the Registrar has appointed an Advisory Board of Aeronautical Experts which consists of five members. Since this Board has no authority to act, other than a duty to advise with the Registrar on matters pertaining to aviation and to make recommendations annually to the Commissioner of Public Works, the Division of Air Law and Legislation deems it advisable for the Commonwealth to continue the function of the Committee for Aeronautics because said Committee co-ordinates most efficiently with other departments interested in aviation.

New England Army Air Base

Since the passage of the Wilcox Act by the 74th Congress of the United States in August, 1935, providing for the location of six United States army air bases to be located at advantageous spots throughout the country and in Alaska at an approximate cost of $110,000,000, a very natural and definite interest has been displayed in New England by persons concerned with the development of aviation as to the possible location of one of these bases within the northeast Atlantic area. New England, being one of the most densely populated areas of the United States, and being a manufacturing center upon which the entire country is dependent for a vast amount of commodities and supplies, has quite naturally been selected as a location for one of these air bases.

Under the leadership of Governor Curley, the Commonwealth of Massachusetts has forged ahead with plans and proposals for the location of such a base within this State. Early in September, 1935, he filed an application with Massachusetts Acting State Director of the P. W. A. for a 45 per cent grant of Federal funds as a part of the total cost of construction of a base, which was estimated in this State to be about $7,000,000. The Governor announced that he would request the incoming Legislature to approve the project and to enact legislation which might be necessary to appropriate the state funds for Massachusetts' share of the expense of construction and for the purchase of the site. Inasmuch as the Congress made no definite provision for the allotment of funds to carry out the terms of the act, it seemed advisable that this application be made. The Governor's offer to carry out the construction of the New England base as a Massachusetts state project has received the consideration of the War Department.

In addition to the main airdrome, many operating fields or "flight strips," as originally conceived and planned by the technical adviser of the Massachusetts Committee for Aeronautics, will be needed within the base area for security by dispersing, and for the accommodation of additional air force units which it may be necessary to concentrate within the base.

Education in Aeronautics

In recent years aeronautics has captured the imagination and interest of the high school youth to an extraordinary extent. Thousands of boys are dreaming of becoming aeronautical engineers or airplane pilots. Many others are wondering whether this challenging field of human endeavor does not offer suitable vocational opportunities for them.

So keen has this interest become that many public schools have undertaken to provide instruction of one kind or another dealing with aviation. In some schools definite vocational preparation in this field is offered. In others, work of an exploratory character is provided in the industrial arts department. In many, considerable attention is given to aviation in such subjects as physics and the social studies, especially vocational civics. In large numbers of schools aviation or model airplane clubs have functioned with marked success.

It is highly desirable that the schools should, on the one hand, take advantage of this great interest of youth in aviation for educational pur-

poses, and, on the other hand, bring home to the students unbiased facts concerning an important group of occupations that are now too much shrouded in romance and glamour.

Interest of public school authorities in aviation trade courses for vocational schools has mounted in the past few years. A number of such courses have been started, and as aeronautics continue to expand, the opportunities for training of this character in the public schools, especially in the vocational high schools, doubtless will become more numerous.

The Committee for Aeronautics is of the opinion that an elementary course in aeronautics is highly desirable in the high school curriculum, since such a course would not only interest the student to the extent of making him air-minded, but also give him a more comprehensive background so that upon his entrance to the institutions of higher learning he will have a basic and fundamental education on which to base his choice of selection of the aviation courses in the advanced schools.

Education in aeronautics covers a broad field. It may include the more or less incidental information given by teachers to students in grade schools or elsewhere; instruction provided in certain high school courses arranged to give the general information covering any part of aviation; engineering courses given in various universities; courses organized to prepare individuals for specific occupations in aviation, or courses intended to advance those already working in some phase of aviation.

The general aviation course may be organized for the purpose of giving the student an understanding of the subject, an additional interest in life, a desire to travel by air, a confidence in air travel, an interest in possessing an airplane, or a knowledge of how to make and fly model airplanes.

Back of the general aviation course may be a national desire to make the coming generation air-minded, and in this way to develop the aviation industry or provide a basis of efficiency in time of war. Instruction of this type is limited to no single phase of the subject, but can cover any information which seems desirable. Such instruction may be of grades varying from public school to college.

Conclusion

The Committee for Aeronautics can well continue as a co-ordinating agency to carry out various recommendations and interests in the development of aviation in the Commonwealth when such work does not conflict with the work of the aviation section of the Motor Vehicle Department. One can readily realize the expediency of such a set-up as has been suggested in this report when he takes cognizance of the fact that the Committee for Aeronautics is composed of the Adjutant General of the Massachusetts National Guard, the Commissioner of the Department of Public Works, the chairman of the Commission on Administration and Finance of the Commonwealth and the Technical Adviser on Aeronautics, all of whom, except the technical adviser, are ex-officio members of the committee. It is also recommended that, in addition to those above mentioned, a representative of the Boston Park Commission, which is at the present time responsible for the Boston Airport, should be designated as a member. If Boston is designated as a port of entry for aircraft by the Department of Commerce, with the approval

of the State Department in Washington, this representative of the East Boston Airport would be a most important addition to the Committee, because if Massachusetts is to have a port of entry for foreign trade by air it would not only materially affect the economic status of Boston and the Commonwealth of Massachusetts, but also the whole of New England.

It is also recommended that the Advisory Board of Aeronautical Experts include individuals who are familiar with protocols and international conventions relative to air navigation, in order that their advice can be sought by those interested in an international air terminal for Boston.

COMMITTEE FOR AERONAUTICS.

MICHIGAN AIRPORT CONFERENCE

The second Annual Michigan Airport Conference, sponsored by the State Board of Aeronautics, under the Chairmanship of Mr. William B. Mayo, was held at Grand Rapids, Michigan, on April 29th and 30th. Many nationally known aviation persons were scheduled to speak at the conference, including Mr. C. Bedell Munro, President, Pennsylvania-Central Airlines, and his assistant, Captain Leslie Arnold, one of the original army round-the-world fliers; Mr. A. B. McMullen, Chief, Airport Section, Bureau of Air Commerce; Mr. Gill Robb Wilson, President, National Association of State Aviation Officials; Mr. Charles F. Horner, President, National Aeronautic Association; Mr. Oliver Parks, President, Parks Air College; and Colonel Ralph Royce, Commanding Officer, First Pursuit Group, Selfridge Field. The dinner meeting the evening of April 29th was presided over by Mr. William Connelly, Manager, Holland Chamber of Commerce and nationally famous as a "good roads" advocate. Many city, county and state officials attended as well as a number of aviation officials from neighboring states.

WYOMING ESTABLISHES STATE AERONAUTICAL COMMISSION

By enacting Wyoming House Bill No. 251, the Legislature of the State of Wyoming created its first State Aeronautical Commission and defined its powers and duties. The Act[3] which was approved on February 24, 1937, follows:

> AN ACT to provide for the establishment of a State Aeronautical Commission; to provide for the powers and duties thereof; and to provide for the enforcement of the provisions of the Uniform State Law for Aeronautics, Wyoming Revised Statutes, 1931.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WYOMING:

Creation of Commission—Members—Qualifications—Compensation.

SECTION 1. There is hereby established a State Aeronautical Commission, to be composed of three (3) members appointed by the Governor of the State of Wyoming, by and with the consent of the Senate. The Chairman of this Commission, who shall possess a knowledge of the aviation industry, and who has had a minimum of fifty hours actual flying experience shall be appointed for a two-year term, to serve in an honorary capacity without

3. Laws of Wyoming, Chapter 105.

remuneration, except at such times when his official duties require his presence at such meetings as may be directed by the Governor; he will then receive the customary per diem allowance and expenses while traveling on official business. The other two members of the Commission, both of whom shall have a knowledge of and be interested in the advancement of aviation in Wyoming, shall serve in an honorary capacity without remuneration, except at such time when their official duties require their presence at such meetings as are directed by the Governor; each member will then receive the customary per diem and traveling expenses. To set up the Commission, one of these members shall be appointed for an initial two-year term, the other for an initial three-year term; thereafter each or his successor shall be appointed for a term of two years.

Powers and Duties.

SECTION 2. This Commission shall cooperate to the fullest extent with the Bureau of Aeronautics of the United States Government, with any existing Federal Aviation Commission, with the Chambers of Commerce, Commercial Clubs and all aviation and business concerns interested in the development of Aeronautics within the State. It is authorized to supervise the maintenance of existing State Airports built with the assistance of Federal funds, and it will have the power to enforce the proper maintenance of such airports by the counties, cities, and towns as agreed in the contracts existing between the sponsors of such airports and the Federal Government. The Commission shall also encourage the development of private aviation schools, encourage interest in private flying and privately-owned planes, encourage the study of Aeronautical Engineering and allied subjects in the various schools of Wyoming and assist in forming classes in aviation, encourage the establishment of feasible airline routes throughout the State and assist as far as possible in such development, and encourage the greater use of airmail.

Uniform State Law for Aeronautics—Enforcement.

SECTION 3. It shall also be the duty of the Commission to enforce the provisions of the Uniform State Law for Aeronautics, Wyoming Revised Statutes, 1931, and to this end it shall instruct and supervise the Sheriffs of the counties in their duties under this law. The Commission may also appoint air-deputies in the towns and cities of the State having active airports. These deputies are to serve in an honorary capacity only, and it will be their duty to keep the Commission informed of any irregularities of pilots or planes at such airports.

According to official information received by the Secretary of the National Association of State Aviation Officials, the following appointments to the newly created commission were made by Governor Leslie A. Miller: Bob Bergesen, Chairman and State Aeronautical Engineer; Wilfrid O'Leary, Secretary and State Aeronautical Legal Advisor; J. Kirk Baldwin, Director of State Aeronautics.

FEDERAL REGULATION

DEPARTMENT OF COMMERCE, BUREAU OF AIR COMMERCE

Air Commerce Regulations: Aeronautics Bulletin No. 7-A Amendment No. 6[1]

Airworthiness Requirements for Aircraft

Pursuant to the authority contained in the Air Commerce Act of 1926, as amended, (44 Stat. 568), Section 73 (A) Paragraphs (1) and (2) of Aeronautics Bulletin No. 7-A are hereby amended to read as follows:

(1) The landing speed in standard calm air at sea level shall not exceed a value determined as follows:

For airplanes of 20,000 pounds gross weight or less, 65 miles per hour.

For airplanes of 30,000 pounds gross weight or more, 70 miles per hour.

Between 20,000 and 30,000 pounds a linear variation with gross weight shall apply.

For airplanes which are not used for carrying passengers the above values may be increased 5 miles per hour.

(a) *For air line aircraft operating in accordance with the requirements of aeronautics Bulletin No. 7-E* the gross weight may be increased beyond the value corresponding to the landing speed specified in Paragraph (1), subject to the following conditions:

(i) The increased gross weight shall be known as the *provisional gross weight* and the weight at which the aircraft complies with the flight requirements for normal aircraft shall be known as the *standard gross weight.* The *standard gross weight* shall be the maximum permissible gross weight for all operations other than those in accordance with the requirements of Aeronautics Bulletin No. 7-E. The *provisional gross weight* shall be the maximum permissible gross weight for any operation.

(ii) The aircraft shall be provided with suitable means for the rapid discharge of a quantity of fuel sufficient to reduce its gross weight *from the provisional gross weight* to the *standard gross weight.*

(iii) In no case shall the *provisional* gross weight exceed a value corresponding to a landing speed of 5 miles per hour in excess of that specified in Paragraph (1).

(iv) Compliance with all the airworthiness requirements except landing speed and take-off is required at the *provisional* gross weight, except that the stress analysis for the landing conditions may be based on the *standard* gross weight when suitable provisions for absorbing ground shocks incident to taking off at the *provisional* gross weight are provided.

(2) Land planes shall take off with full load within 1000 feet in standard calm air at sea level and seaplanes, flying boats and amphibians shall be able to take off from the water with full load at sea level in 45 seconds or less, with a wind velocity not exceeding 10 miles per hour and with moderately smooth water conditions, except as modified hereinafter.

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1. F. R. Doc. 37-509; Filed, February 19, 1937; 1:26 p.m.

(a) *For air line aircraft operating in accordance with the requirements of Aeronautics Bulletin No. 7-E* the gross weight may be increased beyond the value corresponding to the take-off requirements of Paragraph (2) subject to the following conditions:

(i) The gross weight shall not exceed the *provisional* gross weight determined by and defined in Paragraph (1) (a) of this amendment.

(ii) Aircraft engaged in operations in accordance with the requirements of Aeronautics Bulletin No. 7-E shall be licensed for the gross weight at which they comply with the take-off and other performance provisions of that bulletin for the particular operation involved provided that such licensed gross weight shall not exceed the *provisional* gross weight. It may, however, be less than the *provisional* or *standard* gross weights, dependent upon the ground or water facilities and the nature of the route flown.

This amendment supersedes Amendment No. 2 of Aeronautics Bulletin No. 7-A.

Approved, to take effect February 20, 1937.

DANIEL C. ROPER, *Secretary of Commerce.*

Air Commerce Regulations: Aeronautics Bulletin No. 7-E (Edition of October 1, 1934), Amendment No. 13[2]

Pursuant to the Air Commerce Act of 1926 (44 Stat. 568) as amended, and as further amended, by the act of June 19, 1934 (44 Stat. 1113), and the Act of June 19, 1934 (44 Stat. 1116), Chapter 8 of Aeronautics Bulletin No. 7-E is hereby amended by adding to Section 3 (A) the following:

There shall also be installed on such aircraft an approved radio antenna system, which has for its purpose the collection of radio range signals, weather broadcast and emergency messages transmitted within the frequency range of 200 to 400 kc/s. The design of this antenna system shall be such as to eliminate insofar as possible, consistent with the advancement of the art, that type of interference commonly known as rain, snow, sleet or dust static. This antenna system shall be so designed that it will operate efficiently when used in conjunction with a receiver installed aboard such aircraft which has for its primary purpose the reception of radio range signals, weather broadcasts and emergency messages.

Approved, to take effect November 1, 1937.

DANIEL C. ROPER, *Secretary of Commerce.*

Air Commerce Regulations: Aeronautics Bulletin No. 7-E (Edition of October 1, 1934), Amendment No. 14[3]

Pursuant to the Air Commerce Act of 1926 (44 Stat. 568) as amended, and as further amended, by the act of June 19, 1934 (44 Stat. 1113), and the Act of June 19, 1934 (44 Stat. 1116), Chapter 8 of Aeronautics Bulletin No. 7-E is hereby amended by adding to Section 3 (A) the following:

There shall also be installed in such aircraft an approved radio direction finder, covering at least the frequency range of 200 to 400 kilocycles. The design of the radio direction finder shall be such as to permit its regular operation in the taking of line bearings on any station to which the direction finder may be tuned without altering the course of the aircraft. The radio direction finder shall also be provided with means for the elimination of interference commonly known as rain, snow, sleet or dust static. The radio

2. F. R. Doc. 37-528; Filed, February 23, 1937; 1:00 p.m.
3. F. R. Doc. 37-529; Filed, February 23, 1937; 1:00 p.m.

direction finder shall provide means for audible reception of radio range and weather broadcast messages.

Approved, to take effect January 1, 1938.

DANIEL C. ROPER, *Secretary of Commerce.*

Designation of the Federal Airways System as Civil Airways of the United States[4]

By virtue of and pursuant to the authority vested in me by the Air Commerce Act of 1926, as amended (44 Stat. 570, 49 U. S. C., Sec. 175), I hereby designate the following described air route as civil airway necessary to foster air commerce and suitable for interstate or foreign air commerce.

The civil airway designated herein shall include the navigable air space located vertically above an area on the horizontal plane contained within lines encircling each airport (hereinafter called terminal airport) at the ends thereof, with a radius of 25 miles from the center of said airport and also contained within two lines each parallel to and located 25 miles from the center line connecting the terminal airports thereof with such other points as hereinafter specified, to designate the route of said airway. The civil airway designated herein shall also include the terminal and intermediate airports, emergency landing fields and all other air navigation facilities located or which may be hereafter located and established within the said area.

Provided that the civil airway designated herein shall not include any air space reservations set aside and protected by Executive Orders pursuant to the Provisions of Section 4 of the Air Commerce Act of 1926, or the navigable air space above non-territorial waters or above foreign territory abutting the boundaries of the United States.

Civil Airway No. 99: Mobile-Jacksonville

Mobile, Alabama, Municipal Airport, via Pensacola, Florida, Municipal Airport, Tallahassee, Florida, Dale-Marby Airport, Live Oak, Florida, Live Oak Airport, to Jacksonville, Florida, Municipal Airport.

Approved, to take effect March 1, 1937.

DANIEL C. ROPER, *Secretary of Commerce.*

Special Air Traffic Rules[5]

Pursuant to Section 3 (e) of the Air Commerce Act of 1926, as amended (44 Stat. 568), the following Special Air Traffic Rule is promulgated for the operation of aircraft in the vicinity of Washington, D. C., between the hours of 12:00 noon and 2:30 P. M., on January 20, 1937:

> No civil aircraft, nor any other aircraft without special permission, shall be flown at any altitude between 2,500 feet and 4,500 feet in the general area bounded by the Potomac River on the West, the Potomac River on the South, Chesapeake Bay on the East and Chain Bridge on the North.

Pursuant to Section 3 (e) of the Air Commerce Act of 1926, as amended (44 Stat. 568), the following Special Air Traffic Rule is promulgated for the operation of aircraft in the vicinity of Washington, D. C., between the hours of 11:30 A. M. and 1:00 P. M. on January 20, 1937:

> No aircraft shall be flown, at any altitude, within two (2) miles of the Capitol.

Attention of all concerned is also directed to the Special Air Traffic Rule promulgated for the operation of all aircraft over the downtown district of Washington, D. C., which will be complied with by all aircraft not having special permits, reading as follows:

4. F. R. Doc. 37-614; Filed, March 2, 1937; 10:54 a.m.
5. F. R. Doc. 37-172; Filed, January 19, 1937; 10:39 a.m.

All aircraft are and shall be prohibited at all times from navigating at any altitude in the air space above that portion of the downtown district of Washington, D. C., described as follows:

> All that area extending one quarter of a mile in the horizontal plane beyond the outside limits of that section of the City of Washington, D. C., and all the land included within its boundaries, which are marked on the northeast corner by the Union Station, on the southeast corner by the Capitol, on the southwest corner by the Naval Hospital (approximately three-eighths of a mile north of the Lincoln Memorial), and on the northwest corner by the Executive Mansion.

Approved: January 18, 1937.

DANIEL C. ROPER, *Secretary of Commerce.*

INTERSTATE COMMERCE COMMISSION: AIR MAIL DOCKET NO. 10

In the Matter of the Application of Transcontinental & Western Air, Incorporated, for Permission to Institute and Maintain Passenger and Express Schedules Between Albuquerque, N. Mex., and San Francisco, Calif.

Submitted December 9, 1936 *Decided February 8, 1937*

1. Permission to inaugurate off-line passenger or express service by an air-mail carrier may not be granted when such service would be competitive with passenger or express service available upon another air-mail route.
2. Found that off-line service between Albuquerque, N. Mex., and San Francisco, Calif., sought to be established by Transcontinental & Western Air, Inc., would compete with passenger and express service available upon air-mail routes. Application denied.
3. Finding that the Act confers jurisdiction to entertain the application sustained. Previous reports 213 I. C. C. 551 and 214 I. C. C. 552.

Luther M. Walter, William Wallace, Gerald B. Brophy, Leonard P. Moore, and *George A. Spater,* for applicant.

Karl A. Crowley, Solicitor, and *Paul D. Page, Jr.,* Assistant Solicitor, for Postmaster General.

Isaac M. Stewart, Paul M. Godehn, Frank E. Quindry, Raymond S. Pruitt, Hamilton O. Hale, and *Edwin G. Wilcox,* for interveners.

REPORT OF THE COMMISSION ON HEARING

BY THE COMMISSION:

Exceptions were filed by the parties to the report proposed by the examiners and the case was orally argued.

In our former report in this proceeding, 214 I. C. C. 552, we affirmed the decision of Division 3, 213 I. C. C. 551, that section 15 of the Air Mail Act of 1934, as amended, confers jurisdiction upon us to entertain the application of Transcontinental & Western Air, Inc., for permission from us to institute and maintain schedules for the transportation by air of passengers and express between Albuquerque, N. Mex., and San Francisco, Calif., via Winslow, Ariz., and Las Vegas, Nev., off the line of applicant's air-mail route No. 2 extending from New York, N. Y., to Los Angeles, Calif., via Albuquerque and Winslow. Air-mail route No. 2 is defined in applicant's contract with the Postmaster General.

The questions of our authority to grant the application if the proposed service were in any way competitive with passenger or express service available upon another air-mail route, whether such competition must be confined to service between the same points served by an existing route and that proposed to be established, and whether the service sought to be inaugurated under the pending application would in fact be competitive with any existing service regardless of the meaning of the word "competes," were in those reports expressly reserved for consideration following a hearing for the purpose of determining the existence, nature and extent of any competition, as well as the other matters which the act requires be taken into consideration.

American Airlines, Inc., holder of a number of air-mail contracts, operates a transcontinental route between Boston, Mass., and Los Angeles. United Air Lines Transport Corporation operates a transcontinental air-mail route between New York and San Francisco in addition to two other air-mail routes, one the Pacific coastal route between San Diego, Calif., and Seattle, Wash., via Los Angeles and San Francisco. Western Air Express Corporation operates an air-mail route between Salt Lake City, Utah, and San Diego via Las Vegas and Los Angeles. These three carriers intervened in opposition to the application. The San Francisco Chamber of Commerce intervened in support of the application.

Applicant, American, and United also operate off-line services established and maintained prior to the effective date of the amendment under consideration here. At the present time, applicant, by its air-mail route No. 2 and its existing off-line service, serves New York, Philadelphia and Pittsburgh, Pa., Columbus, Ohio, Indianapolis, Ind., Chicago, Ill., St. Louis, and Kansas City, Mo., Wichita, Kans., Amarillo, Tex., Albuquerque, Winslow and Los Angeles. It now carries passengers and express moving between those points and San Francisco by connection with United at Los Angeles. American also serves New York, Philadelphia, Columbus, Indianapolis, Chicago, St. Louis, and Los Angeles, and likewise participates in traffic to and from San Francisco transferring to United at Los Angeles. United carries passengers and express directly between New York, Philadelphia, and Chicago on the one hand and San Francisco on the other. Western Air participates with United in round-trip transcontinental transportation routed so as to afford passengers an alternative journey, between Salt Lake City and San Francisco, via Los Angeles and Las Vegas, the flights between the latter points being over Boulder Dam. Applicant now operates some schedules to and from Los Angeles over the Grand Canyon and Boulder Dam north of the airway of its air-mail route.

At the present time applicant, American, and United compete with each other for traffic between San Francisco and common points and points served by other air carriers. The record shows that during the year 1935 United carried 4,170 passengers between San Francisco and Chicago and points east thereof. TWA and American, by connection with United, transport passengers traveling to and from the same points; but information as to the number of such passengers is not of record. This competition would be intensified if the proposed service were established, since the opening of an additional direct route to San Francisco would afford passengers from many other points a choice of routings. It is conceded on the record that the

proposed service, if established, would be operated as part of a transcontinental route to and from San Francisco.

Under these circumstances we must first consider the major question heretofore expressly reserved for decision, i. e., whether we have authority to grant the application if the proposed service would be competitive in any way with passenger or express service available upon another air-mail route. Section 15 is the only part of the act giving us any jurisdiction over the operation of passenger or express service by an air-mail carrier off the line of its air-mail route. The first paragraph of that section prohibits the operation of all such service which competes in any way with passenger or express service available upon another air-mail route, unless the off-line service under consideration had been regularly maintained prior to July 1, 1935. Standing alone this paragraph would prohibit the proposed operation, since it was not maintained prior to July 1, 1935, and would be in competition with services upon air-mail routes of other carriers.

The second paragraph of the section provides that the Postmaster General or an injured air-mail carrier may file with us a complaint against another air-mail carrier because of (a) unfair practices; (b) any competitive air-transport service other than that supplied on the line of the air-mail route; or (c) any service *inaugurated after July 1, 1935,* through the scheduling of competitive non-mail flights *over the air-mail route.* We are directed to inquire fully into the subject matter of the allegations, after reasonable notice to the carrier complained of, and to order such practice or competition discontinued or restricted if we shall find (1) that any part thereof is unfair, or that the competitive service in whole or in part is not reasonably required in the interest of public convenience and necessity, and (2) that in either case the receipts or expenses of an air-mail carrier are so affected thereby as to tend to increase the cost of air-mail transportation. There follows the sentence upon which the applicant relies as giving us authority to permit the inauguration of the service, which reads:

> If the Commission shall find after like application, notice, and hearing that the public convenience and necessity requires additional service and necessity requires additional service or schedules and such service or schedules do not tend to increase the cost of air-mail transportation, it may permit the institution and maintenance of such schedules and prescribe the frequency thereof.

This sentence modifies the first paragraph of section 15 and makes possible the operation of some service which would otherwise be forbidden. However, unless this modification is sufficient in scope to give us authority to permit air-mail carriers to operate new off-line routes, where needed in the public interest, without regard to the location or extent of such routes, the application in this case must be denied. It is an elementary rule in determining the meaning of an act that the intention of the legislature must be ascertained from a consideration of the statute as a whole. *United States* v. *Fisher,* 2 Cranch 358, 386; *United States* v. *Lexington Mill & E. Co.,* 232 U. S. 399.

The first part of the quoted sentence refers to "like application, notice, and hearing" and it has been urged that an application, in order to comply with this provision, must have been filed by the Postmaster General or an

injured air-mail carrier; i. e., that it must be a complaint alleging unfair practice or illegal competition. This contention presupposes prior inauguration of service which would be the subject of such complaint. Any violation of the provisions of the act by an air-mail carrier is, by the terms of the act, punishable by fine or imprisonment, as well as by the withholding of whatever mail pay may be due the carrier from the United States and the possibility that its mail contract may be canceled. In view of the fact that we are expressly authorized to *permit* the *institution* of some additional service upon *application,* it is not reasonable to suppose that Congress intended that such application could not be filed with us until after the service, which might be illegal and thus subject the offending carrier to these penalties, had been instituted. On the contrary, the application and the proceedings thereon afford a method through which a carrier desiring to inaugurate new service may have the protection of a determination respecting its legality before putting the service into effect.

As previously pointed out the important point to be considered here is the extent to which the authority to permit additional service modifies the prohibition of the first paragraph. There can be no doubt that the two provisions are susceptible of conflicting interpretations. The first paragraph clearly prohibits any new off-line competitive passenger or express service by an air-mail carrier. The second paragraph provides that some new service may be permitted. Where two provisions of a statute appear to be conflicting, the part which is clear and definite will not be set aside by a subsequent provision unless there is no doubt as to the meaning of the latter. We quote from the opinion by Chief Justice Marshall in *Faw* v. *Marsteller,* 2 Cranch 10, 23:

> In searching for the literal construction of an act, it would seem to be generally true, that positive and explicit provisions, comprehending in terms a whole class of cases, are not to be restrained, by applying to those cases an implication drawn from subsequent words, unless that implication be very clear, necessary, and irresistible.

When the two provisions are considered together it becomes apparent that there is not in the subsequent provision any clear, necessary, and irresistible implication that Congress intended thereby to permit air-mail carriers to start new off-line routes in competition with other air-mail routes contrary to the prohibition contained in the first provision. If Congress had intended, notwithstanding the direct prohibition of the first provision, to give us authority to permit the establishment of new competitive routes upon findings of public convenience and necessity, as it has done with respect to railroads and motor carriers in the Interstate Commerce Act, it would have done so by appropriate language as to the meaning of which there would be no doubt. *Farrington* v. *Tennessee,* 95 U. S. 679, 689; *Tompkins* v. *Little Rock & H. S. R. Co.,* 125 U. S. 109, 127.

This conclusion does not alter our previous finding that we have jurisdiction to entertain the application. As stated herein, a carrier desiring to inaugurate new service may thus seek prior determination of the legality of such service. Our present conclusion, however, renders unnecessary consideration of the questions of public convenience and necessity and the po-

tential effect upon the cost of air-mail transportation which were expressly reserved for consideration upon hearing.

We find:

1. That under the Air Mail Act of 1934, as amended, we may not authorize an air-mail carrier to institute off-line passenger and express service which would in any way compete with similar services available upon another air-mail route; and

2. That the service proposed to be established by the applicant in this case would be competitive with similar services upon air-mail routes of other carriers.

The application is denied.

An appropriate order will be entered.

SPLAWN, *Commissioner,* concurring:

I concur in the dismissal of this application for a certificate of public convenience and necessity but do so upon the ground that we have no jurisdiction to entertain it, for the reasons stated in my dissenting expression in the prior report, 214 I. C. S. 552.

I am authorized to state that Commissioners Lee, Mahaffie, and Caskie join in this expression.

MCMANAMY, *Commissioner,* dissenting:

The decision of the majority hews too closely to the letter of the law in disregard of its spirit and fails to recognize the practical aspects of its application, with the result that the air-mail carriers are frozen in their present positions regardless of the public need for additional service and their ability to furnish it. The inevitable effect will be to retard orderly development of air transport, and to render impossible the reduction in cost to the Government of air-mail transportation contemplated in the requirement of their contracts that they furnish the passenger and express service for that very purpose. Even though the statute may be susceptible of different interpretations, I cannot agree with the construction which leads to these results, if another is reasonably possible.

In our initial proceeding under this act, we recognized that the passenger business of these carriers, as well as the volume of express and mail, was growing rapidly. The extent of the subsequent growth has been even more remarkable. This growth is apparent from comparison of the calendar year 1936 with that of 1934 showing increases of 56 per cent in total miles flown, 121 per cent in number of passengers carried, 133 per cent in pounds of mail, and 226 per cent in pounds of express transported. Congress was aware of this situation when it enacted the amendments here considered. It recognized not only the desirability of providing for expansion in air-transport service to meet the increasing public demand, but also the fact that in the normal course of events it would be impossible to stop that demand and expansion. Some air transportation has been and is being furnished by non-mail carriers, and the first drafts of section 15 contained provisions under which development of service by the latter, as well as by air-mail carriers, would have been subjected to regulation. As finally enacted, however, the proposals to include non-mail carriers were eliminated, possibly in the thought that those carriers rendered only a minor part of the total service and that

there was no great probability of immediate change. Whatever may have been the situation in the past, there can be no doubt that passenger and express services are constantly assuming a more important place in air transport, and there is no assurance that future service can and will be provided by mail carriers alone.

Under the decision of the majority, however, no part of such new service could be furnished by the present air-mail carriers. The latter would be forced to stand by and watch entirely new interests, unhampered by statutory prohibitions, develop service which might well constitute logical additions to the service now provided by such carriers. The majority does not, of course, in terms prevent air-mail carriers from establishing all new service, but only such as would be "competitive" with existing service over an air-mail route. Whether these carriers could provide new noncompetitive service without authority from us, or whether, as urged by the Postmaster General, they would be free to establish it without authority from any source, is not decided. Practically, I see little importance in that question because under the decision of the majority it would be impossible to establish any substantial new service entirely noncompetitive with existing service.

With these practical considerations in mind I turn to an examination of the statutory provisions. As I have previously pointed out, these provisions reflect the intent of Congress to recognize the desirability of, and to legalize, service beyond that strictly required by the air-mail contracts. I do not understand the majority disagrees with this view; nor do I disagree with its analysis of the statute, here and in the prior reports, up to the point of the final conclusion. Congress sets up a prohibition against certain service, leaving other service unrestricted at that point. It then creates its own exemption from the prohibition. It next provides for an orderly judicial consideration of the legality, under prescribed standards, of existing service. Then follows the provision here under consideration. In its construction of the latter provision, the majority relies upon the rule that since there is not therein "any clear, necessary, and irresistible implication" that Congress intended to permit air-mail carriers to begin any new off-line competitive service, Congress has not authorized us to permit the inauguration of such service. I think this view clearly overlooks, and negatives, the real purpose of Congress, necessarily leaving the provision practically meaningless. It is my view that this provision relates not alone to new off-line "competitive" service, but to any new service, competitive or noncompetitive, which the carriers subject to the Act might seek to establish. In other words, Congress intended the air-mail carriers should be equally free to do what their unregulated competitors might do in establishing service required by the growth of the business, subject, of course, to the limitation that the establishment of such service by air-mail carriers could be permitted only if found to meet the prescribed tests of public convenience and necessity and potential effect upon the cost of mail transportation. It was thus assured that reasonably necessary expansion would proceed along orderly lines, and that there would be no injurious effects, monetary or otherwise, upon the service required by the Government for the efficient administration of the postal service. It is, therefore, not only unnecessary, but highly improper, to search the provision for a "clear, necessary, and irresistible implication," that a

further exemption from the prohibition of the section was intended, or to conclude that such exemption could and should have been stated definitely. Since the provision was designed to cover all service, without qualification as to its character, there was no purpose or reason to state, or to include an "implication," that there was a further exemption from the prohibition. Indeed, such statement or "implication" might well have been regarded as negativing the intention to embrace all new service.

Our examiners proposed affirmative findings in respect of the prescribed tests. The majority disposed of the application solely upon the finding of lack of jurisdiction to grant it, leaving untouched these important factual issues. Assuming that the majority would find no error in these recommendations of the examiners, I think we should find that the proposed service would be in the interest of public convenience and necessity, would not tend to increase the cost of air-mail transportation, and that the applicant is, therefore, entitled to permission from us to institute and maintain the service proposed.

I am authorized to state that Commissioners Aitchison and Porter join in this expression.

Commissioner Eastman did not participate in the disposition of this report.

Order Denying Application

At a General Session of the Interstate Commerce Commission, held at its office in Washington, D. C., on the 8th day of February, A. D. 1937, the following order was issued:

Investigation of the matters and things involved in this proceeding having been made, and said Commission having, on the date hereof, made and filed a report containing its findings of fact and conclusions thereon, which report is hereby referred to and made a part hereof:

It is ordered, That the application herein be, and it is hereby, denied.

By the Commission.

GEORGE B. MCGINTY, *Secretary.*

INTERSTATE COMMERCE COMMISSION: AIR MAIL DOCKET NO. 18

In the Matter of the Petition of National Parks Airways, Inc., for Adjustment of the Base-Rate Mileage for Air Mail Route No. 19

Submitted January 28, 1937 *Decided February 8, 1937*

1. Order of March 11, 1935, in *Air-Mail Compensation*, 206 I. C. C. 675, does not require reduction in base rate where mileage flown equals 180 per cent of prescribed base mileages which are substantially equivalent to one round trip daily.
2. Fair and reasonable rates of compensation for the transportation of air mail by airplane and the service connected therewith over Air Mail Route No. 19 from and after date of the filing of the petition therefor fixed, determined and published with relation to the increase in the authorized mail-pay mileage over the route.

J. Bruce Kremer and *Herbert M. Bingham*, for petitioner.

Karl A. Crowley, Solicitor for Post Office Department, and *Paul D. Page, Jr.*, Assistant Solicitor, for Postmaster General.

REPORT OF THE COMMISSION

DIVISION 3, COMMISSIONERS MCMANAMY, PORTER, AND MILLER:

Exceptions were filed by the Postmaster General to the report proposed by the examiner. Our conclusions differ slightly from those recommended therein.

By petition filed October 5, 1936, National Parks Airways, Inc., alleges that increases in its operated mileage and changes in its equipment required by Government regulations have resulted in material increases in its investment and operating costs. It requests a review of the order of March 11, 1935, in *Air-Mail Compensation,* 206 I. C. C. 675, insofar as that order fixes the rate of compensation for the transportation of air mail by airplane over Air Mail Route No. 19 and prays such relief as may be equitable in the premises. The Postmaster General filed answer, hearing was held, and briefs were filed.

Air Mail Route No. 19 extends from Great Falls, Mont., via Helena and Butte, Mont., Pocatello and Idaho Falls, Idaho, and Ogden, Utah, to Salt Lake City, Utah. When the decision in *Air-Mail Compensation, supra,* was reached, petitioner was flying only one round trip daily over its route and the authorized mail-pay mileage was 517 miles each way. Effective April 10, 1935, a second round trip daily, except Sundays and holidays, was authorized between Salt Lake City and Butte, a distance of 389 miles. On December 20, 1935, the latter round trip was extended to Helena, 441 miles distant from Sale Lake City. Effective April 1, 1936, the Post Office Department restated petitioner's mileage for alternate routes determined by the Department of Commerce as 550 miles for Route A, 480 miles for Route B, and 512 miles for Route C. The mileage for Route A was later increased to 551 miles. The latter route is the only lighted route, and petitioner is required to follow it at night and during bad weather. Petitioner is operating upon this basis at the present time.

The Department authorized a mail stop during the summer months at West Yellowstone in connection with petitioner's tourist traffic to Yellowstone National Park. Although this service required an increase in the mileage flown by petitioner, no additional mail-pay mileage was authorized, on the theory that the volume of mail would not warrant the inauguration of the service at an additional expense to the Department. However, under the Department's order, the Route A mileage was certified between Idaho Falls and Butte on the trips via West Yellowstone. In addition, between July 1, 1936, and August 24, 1936, a round trip daily between Salt Lake City and West Yellowstone was maintained by petitioner. The Department authorized the transportation of mail on this schedule under an arrangement whereby the weight of mail was credited to mail-pay schedules without compensation for the mileage flown.[1]

The order in *Air-Mail Compensation, supra,* fixed the rates of compensation for the transportation of mail by airplane for all air-mail carriers then operating, each base rate named being applicable only for the mileage named for that base. The rate for Air Mail Route No. 19 was fixed at 33⅓

1. For description of weight-credit schedules, see ***Air Mail Compensation,*** *supra,* pp. 713-717.

cents per mile, the statutory maximum, with a base mileage of 30,000 miles. That order further provided for progressive decrease or increase in the base rate of 1 cent for each 10 per cent increase or decrease, respectively, in the mileage flown. This provision was subject to the exception that when the base mileage is the substantial equivalent of one round trip daily per month, the provision of the scale should not become effective until the miles flown totaled 180 per cent of the base mileage. The latter provision is applicable to the instant case since the base of 30,000 miles approximates one round trip daily per month over petitioner's route.

The additional schedules authorized by the Department between Salt Lake City and Helena, together with the increase in the mileage authorized for the route, have increased petitioner's monthly mileage to an amount in excess of 54,000 miles, which is 180 per cent of the base mileage designated for the route. The Postmaster General has interpreted the order to require a 1 cent reduction in rate for any increase in mileage over 180 per cent of the base up to 10 per cent, and successive 1 cent reductions thereafter in a similar manner. Reference was made to a decision of the Comptroller General designated A-66116 affirming his interpretation.

In May 1936 petitioner's planes were operated in authorized mail service 54,543 miles, which at 33⅓ cents per mile would produce compensation of $18,181. However the rate of compensation paid was 32⅓ cents per mile and petitioner received only $17,635. In June petitioner received $17,806.29 in lieu of its claim of $18,357, for flying 55,071 miles. In July its mileage totaled 57,260 miles, the equivalent of 54,000 miles (180 per cent of the base mileage) plus an increase greater than 10 per cent of the base. Petitioner, therefore, computed the compensation at 32⅓ cents, or $18,514.07. It was paid $17,941.17, computed on the basis of a rate of 31⅓ cents. Similarly, in August petitioner received $17,946.17 in lieu of its claim for $18,518.92, for flying 57,275 miles.

Petitioner contends (1) that the Postmaster General's interpretation of the order is erroneous, and (2) that the base mileage fixed is too low for the service now being performed and results in an unwarranted reduction in its compensation.

As heretofore explained, the order provides generally for progressive reductions of 1 cent in the base rate for each increase of 10 per cent over the base mileage in the mileage actually flown and similar increases for each reduction of 10 per cent under the base mileage in the mileage actually flown. The fact that in such cases these changes in base rates do not become effective until after there has been a 10 per cent change in mileage is not questioned. Following this general provision in the order is a proviso to the effect that "where the mileage named in the table is substantially the monthly equivalent of one daily round trip over the entire route, the base named for that mileage shall not be decreased until the miles actually flown with mail each month equal 180 per cent of the mileage named, but shall thereafter be decreased, as herein provided, upon each further increase of 10 per cent in the mileage named." Since no specific decrease in rate is provided when 180 per cent of the mileage is reached, it is clear that no reduction was intended at that point, but rather that "thereafter" the rate should be decreased "as herein provided," i. e., as required by the general provisions of the order

a progressive reduction of 1 cent upon each increase in miles flown which equals 10 per cent of the base mileage. Thus the intent of the proviso was to delay the operation of the 10 per cent provision until after 180 per cent of the base mileage is flown in those cases in which the base named in the order approximates one round trip daily, and in effect to fix the base mileage in such cases at 180 per cent of the base named in the order. To follow the interpretation which has been applied would place a different and inconsistent construction on the proviso from that placed on the general provision of the order.

As a basis for its contention that the base-rate mileage is too low, petitioner contends that the use of multi-motored equipment in place of single-motored equipment is required by the Department of Commerce regulations issued October 1, 1934, and has increased its costs to such an extent as to more than offset the increased revenues accruing from flying the additional mileage.

These regulations were not enforced immediately with respect to petitioner. However, on November 1, 1934, petitioner acquired one twin-motored Boeing 247 plane which it operated in conjunction with its single-motored equipment. A second Boeing 247 plane was acquired in January or February of 1935, enabling a further curtailment in the use of the single-motored equipment. During the spring of the latter year the single-motored equipment was abandoned except for emergency service so that during the fiscal year ended June 30, 1936, single-motored equipment was not used for transportation of passengers and was flown less than one-half of 1 per cent of petitioner's total mileage.

In order to show the increase in cost of operation of the multi-motored equipment over the single-motored equipment petitioner's witness testified that he had analyzed the costs of operation for the period May 15, 1934, to October 1, 1934, when only single-motored equipment was used. The total expenditures during this period were $87,079.05 from which he deducted the cost of material and supplies sold to others and rental paid for use of leased equipment to arrive at a net cost of $72,109.10 chargeable to operations. During this period 175,202 revenue miles were flown in mail service which would indicate a cost of 41.1 cents per mile. Operations from July 1, 1935, to June 30, 1936, were analyzed to determine the cost of operation of twin-motored planes, since during this period the use of single-motored planes was negligible. The total cost during this period was $324,505.47 from which the witness deducted $10,226.79, the cost of material and supplies sold to others, to arrive at a net cost of $314,278.68. On the basis of 615,377 revenue miles flown this would result in a cost of 51.7 cents per mile.

A comparison of the detailed costs per mile for these periods shows that substantial increases in the per-mile cost of depreciation, pilotage, and gas and oil as a result of the operation of larger and more expensive planes more than offset the reduced cost of superintendence and general and administrative expenses resulting from increased mileage. On the other hand, the average passenger revenue per mile during the period of single-motored operation from May 15, 1934, to October 1, 1934, was 4.75 cents as contrasted with 7.62 cents for the period of multi-motored operation from July 1, 1935, to June 30, 1936. During the entire period the express and other revenues,

other than passenger and mail, were insignificant and without material bearing upon our findings here.

It was shown of record that while the cost of operations per mile increased only about 25 per cent, the passenger revenue per mile has increased about 60 per cent, and that the ratio of passenger revenue to expense has remained almost constant at about 12 per cent. Notwithstanding this fact, the actual loss from operations materially increased during the period of multi-motored operation. Operations were conducted at a slight profit when single-motored planes were used. It should be noted, however, that this profit was in part due to the fact that during some of the period a mail-pay rate of 39 cents per mile was in effect. If the 33⅓ cent rate had been applicable for the entire period petitioner would have had a per-mile revenue of about 38 cents with a resulting loss of three or four cents per mile. During the period of multi-motored operation the revenue of approximately 40 cents per mile failed to meet expenses by more than 11 cents.

The twin-motored Boeing 247 planes, which petitioner now operates, have a seating capacity of 10 passengers and are flown with a passenger load factor varying seasonally from 10 to 40 per cent. Petitioner showed that, while other types of multi-motored equipment with a lower seating capacity might perhaps be slightly more economical of operation than these planes, a number of factors combined to render the latter the most satisfactory for its service. Petitioner was able to obtain these planes under very advantageous terms. In addition, under the arrangement, reserve equipment is made available for emergency service, thus avoiding a substantial investment therein. As a further consideration, petitioner asserts that because its principal interline business is with United Air Lines and Western Air Express, it is highly desirable that it operate the same type of equipment as these carriers.

On brief petitioner requests that its base mileage be increased to 66,000 miles and that our order to this effect be made retroactive to May 1, 1936, the date of the first reduction in compensation. The base mileage fixed for petitioner's route contemplated an authorized route mileage of 517 miles and was slightly less than the exact monthly equivalent of one round trip daily over the entire route. The increase in authorized route mileage to a maximum of 551 miles has substantially increased this spread between the exact monthly equivalent of one round trip daily over the entire route and the base mileage. Petitioner's contention for a base mileage of 66,000 miles is apparently based upon two round trips daily over the entire route. There is no evidence of record to indicate any possibility of the inauguration of this service. Nor is there evidence to show that economies of operation would not be possible through the operation of two complete round trips which would warrant the reductions in rate contemplated in the mileage scale. On the other hand, the acceleration of the scale brought about by the increase in the authorized route mileage leaves petitioner in a less favorable position than that found to be fair and reasonable in *Air-Mail Compensation, supra,* and that now occupied by other carriers for which the same basis was fixed but which have not experienced a like change in conditions. Considering the additional fact that petitioner is now required to perform, and actually performs, a higher quality of service at greater cost, it is apparent that the present basis for determining rates on Route No. 19, even when properly applied, no longer results in fair and reasonable rates.

As previously stated, petitioner seeks to have the findings herein made effective from May 1, 1936, prior to the date its petition was filed. In *Air-Mail Compensation,* 216 I. C. C. 166, the rates found fair and reasonable for Routes Nos. 3 and 16 were, for the reasons there stated, made applicable from the date of filing of the petition. This record affords no basis for any different conclusion especially in view of the fact that the relief sought will, in part at least, be obtained through the proper application of the order in *Air-Mail Compensation, supra,* during the period prior to the date of filing the petition.

We find that the rates of compensation for the transportation of air mail by airplane and the service connected therewith over Route No. 19 were not fair and reasonable from and after October 5, 1936. We further find that the fair and reasonable rates of compensation for the transportation of air mail by airplane and the service connected therewith over Route No. 19 from and after that date were, are, and will be for each airplane mile actually flown with mail, subject to the provisions of section 3(f) of the act, the rates for 300 pounds of mail or less determined by applying the provisions of the order in *Air-Mail Compensation,* 206 I. C. C. 675, to a base of 33⅓ cents per airplane mile for a base mileage of 33,000 miles, provided, that the compensation payable under any rate so determined should not exceed the minimum compensation payable under the next lower rate so determined, and that rates so determined should be subject to the increases provided by the act for mail loads in excess of 300 pounds.

An appropriate order will be entered.

Order Adjusting Base-Rate Mileage

At a Session of the Interstate Commerce Commission, Division 3, held at its office in Washington, D. C., on the 8th day of February, A. D. 1937, the following order was issued:

It appearing, That by order of March 11, 1935, entered pursuant to the provisions of the Air Mail Act of 1934, the Commission fixed and determined the fair and reasonable rates of compensation for the transportation of air mail by airplane over Air Mail Route No. 19; and

That National Parks Airways, Inc., contractor on Route No. 19, filed a petition for review of said order, which was answered by the Postmaster General; and

That a full investigation of the matters and things involved has been had, and that the Commission, by Division 3, on the date hereof, has made and filed a report containing its findings of fact and conclusions thereon, which said report is hereby referred to and made a part hereof:

It is ordered, That fair and reasonable rates of compensation for the transportation of air mail by airplane and the service connected therewith over Air Mail Route No. 19, on and after October 5, 1936, are fixed and determined, and are hereby published for each airplane mile actually flown with mail, subject to the provisions of section 3(f) of the act, as the rates, for 300 pounds of mail or less, determined by applying the provisions of the Commissioner's order in *Air-Mail Compensation,* 206 I. C. C. 675, to a base of 33⅓ cents per airplane mile for a base mileage of 33,000 miles; *Provided,* That the compensation payable under any rate so determined shall not exceed the minimum compensation payable under the next lower rate so determined;

And it is further ordered, That this order shall continue in full force and effect until further order of the Commission.

By the Commission, Division 3.

GEORGE B. MCGINTY,
Secretary.

INTERSTATE COMMERCE COMMISSION: AIR MAIL DOCKETS NOS. 1, 16, 18

Order Reopening Proceedings

At a General Session of the Interstate Commerce Commission, held at its office in Washington, D. C., on the 5th day of April, A. D. 1937, the following order was issued:

Upon consideration of the petitions filed by the Postmaster General in Air Mail Docket No. 1, *Air-Mail Compensation,* 206 I. C. C. 675, 216 I. C. C. 166, and in Air Mail Docket No. 18, *National Parks Airways, Inc., Base-Rate Mileage,* decided February 8, 1937, and of the "Further Exception on Behalf of the Postmaster General" to the report proposed by the Examiner in Air Mail Docket No. 16, *Air Mail Rates for Route No. 24;* and upon consideration of the answers of the carriers to the petitions and of the protest of the carrier to the reception by the Commission of the further exception; and upon further consideration of the records in these proceedings; and good cause appearing therefor:

It is ordered, That these proceedings be reopened for oral argument before the Commission solely on the questions of (1) its authority to make its orders fixing fair and reasonable rates effective as of the date of filing of the petition, and (2) as to the necessity for clarification of the order of March 11, 1935, in Air Mail Docket No. 1 respecting the computation of rates.

By the Commission:

W. P. BARTEL,
Secretary.

AIR LINE SAFETY CONFERENCE[1]

Representatives of air lines, aeronautical organizations, and Government agencies having to do with aeronautics met with officials and experts of the Department of Commerce February 4, 5 and 6 at a conference in Washington to discuss safety in scheduled air transportation.

The conference was divided into two parts. The first part consisted of technical sessions February 4 and 5 on radio equipment in which radio experts of the air lines and other agencies participated. The second part was devoted to a general discussion of airline safety. On the first day a special radio committee was appointed to draft conclusions and recommendations on the agenda. The report of this committee was approved by the conference on February 5th.

The following is a brief summary of the results of the conference:

A. Immediate steps to be taken on—

(1) Adoption of auxiliary means of navigation by all air lines. This calls for utilizing the radio compass or the radio directional finder, two new developments which enable the pilot in flight to determine his position or distance along the beam at all times. It is to supplement the present direc-

1. Extracted from the report in 8 Air Commerce Bulletin 202 (March 15, 1937).

tional beam flying and provides an added check on the side of accurate navigation.[2]

(2) Installation of directional and homing devices on all air liners. The directional and homing devices on air liners enable an airman to find his position by tuning in on any type of Federal radio station and to fly to his destination either by triangulation or direct to the transmitter to which he is tuned.

(3) More exacting navigation training of air-line pilots. Because some pilots have misjudged their position, particularly in bad weather, methodical training in the directional and homing devices in fair weather is necessary.

(4) Near-future installation of an air log on all air liners. This is a device that records practically all movements of the aircraft and enables supervisory personnel to have a positive check on the plane while en route and also provides valuable information in case of an accident.

(5) Installation of antistatic shielded loop antenna on all air liners. The device will enable airmen to receive radio directional signals and voice from the ground under rain and snow static conditions so severe that the present type antennas and receiving sets fail.

(6) Promulgation of approved type certificate air liner radio equipment regulations. These are requirements or standards for radio similar to our safety requirements for engines, propellers, and other important accessories on a licensed plane.

(7) Installation of only simultaneous ranges on Federal airways. These stations, developed and operated by the Bureau of Air Commerce, broadcast both voice and radio beacon signals at the same time enabling airmen to receive both weather reports and beacon signals without having to discontinue the beacon as at present and thereby deprive an airman "riding the beam" of this important directional guidance.

(8) More detailed and accurate radio maps issued by Government. These maps issued by the Department of Commerce would be modified to include more radio information and in greater detail.

(9) Pilot training on Link trainer by all air lines. The Link trainer is a device installed on the ground which enables an airman to fly blind and follow the radio beacon with every move recorded on a chart to check his proficiency. It simulates actual conditions of blind flight.

(10) Expediting airport approach light installations by Bureau of Air Commerce. Penetrating approach lights to terminals enable airmen to locate the runway extensions and land under conditions of poor visibility with complete safety. The Bureau's program in establishing approach lights is going forward at once at 18 airports.

(11) Creation of an expanded Safety Research and Development Section in the Bureau of Air Commerce. This section would include a committee representing the air lines and other interests involved which would advise the Department as to the subjects most urgently in need of investigation, experimentation, and development.

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2. Amendments Nos. 13 and 14 to Aeronautics Bulletin No. 7E, *supra* p. 234, grew out of this Conference. Effective dates of the two amendments were set far enough in the future to permit the perfection and testing of available equipment.

B. Cooperative studies or efforts on—

(1) Improved and more adequate airway aids and weather reporting systems. The needs of the air lines in this regard are known definitely to the Bureau of Air Commerce and as fast as funds become available the program will be carried out.

(2) Modernizing ground and plane radio equipment. To be of maximum value, radio must be equally balanced, *i. e.*, both the Federal transmitting station and the air liner receiving sets must be geared efficiently to each other.

(3) Federal ground directional finding for emergency use. This is the system used in Europe, but is not considered practical for domestic use. However, its value in an emergency will not be overlooked and steps will be taken by the Bureau to develop this method for that purpose.

(4) Blind approach system. There are now so many systems to enable a pilot to fly blind right up to an airport and undertake a landing that before any one system can be installed by the Bureau of Air Commerce there must be complete agreement on the part of potential users of such a device.

(5) Pilot training and condition. Greater study will be given to the pilot's physical and mental condition and reactions.

(6) Three-wheel undercarriages and steeper glide path aircraft designs. Because the three-wheel type undercarriage, sponsored by the Bureau of Air Commerce, is regarded by experts as revolutionizing the landing of aircraft and because it increases safety, more studies will be made looking to incorporating this design into the transport planes. With such a landing gear, steep glides into a field can be made with safety whereas with the present large airliners, the glides must be long and flat.

(7) Take-off accelerations. This involves devices similar to catapulting and would result in shorter runs and eliminate much horsepower now carried in the engines solely for take-off purposes.

(8) Use of two first pilots for more efficient navigation. On most airliners at present the second pilot is usually less experienced than the first pilot. Two pilots of equal ability will make for greater safety.

COPELAND COMMITTEE REPORT ON SAFETY IN THE AIR*

On March 17, 1937, Senator Royal S. Copeland (N. Y.), from the Committee on Commerce, submitted to the Congress a Report on its investigation into problems of safety in the air. Acting under authority of S. Res. 146, 74th Congress, which resulted from the death of Senator Bronson M. Cutting in an airplane crash in May, 1935, the Committee, the seventeenth official committee or board to investigate American aeronautics in the past seventeen years, made an extensive study over a period of twenty months of the entire history of American aeronautics, including the reports of the preceding sixteen committees and boards, and spent a number of months in taking the testimony of aeronautical experts representative of the best available thought.

The following digest of the committee's observations and recommendations contained in the forty-seven page report is set forth:

* Senate Report No. 185, 75th Congress, 1st Session; ordered to be printed March 17, 1937; submitted by Senators Royal S. Copeland, *Chairman*, Bennett Champ Clark, Vic Donahey, Wallace H. White, Jr.

General Observations

The United States is the only great Nation where progress in aeronautics has resulted from the advantages of competition and freedom resulting from peace. Perhaps because of the complete divorcement between military and civil aeronautics in this country there has circulated in this country a belief that American aeronautics, both military and civil, is inferior to that of the rest of the world. Contrary to that conception, the United States excels in airline operation and in the qualitative production and standardization of motors, planes, and equipment. In the performance of certain experimental military aircraft, due to the availability of an approved and proven higher-horsepower engine, some other countries excel. One important factor in the successful operation of civil aeronautics has been the aid given by the Federal Government in the way of radio and navigation facilities. American commercial aeronautics is supreme throughout the world, but the Government is not absolved from the duty to leave no stone unturned in promoting greater safety.

Committee's Preliminary Report

A preliminary report (Rept. No. 2455, 74th Cong., 2d Sess.) was submitted by this committee on June 20, 1936, presenting (a) its findings relating to the cause of the accident at Atlanta, Mo., in which Senator Cutting and four other persons were killed; and (b) certain recommendations for changes in the personnel of the Bureau of Air Commerce. The Committee regrets that full use of the pertinent facts and evidence on the subject of air safety has not yet been made.

Scientific Development

In order that our scientific basis of design and construction may not fall behind the rest of the world, it is essential to keep up to date the laboratory equipment of the National Advisory Committee for Aeronautics at Langley Field, Va., until recently unexcelled. Greater progress in accuracy of design and increased safety would result if its equipment were rebuilt in the light of present-day knowledge. We do not consider it sound practice for the Government to do either experimental or development work in matériel. That should be left to industry; but funds ought to be provided by Congress for the purchase of worth-while results of experimentation and development.

Specifically, the Bureau of Air Commerce, should not engage in scientific, experimental or development work in its own shops or laboratories. It should confine itself to coordination, stimulation and direction of technical advance and safety in private industry. Fundamental research into the problems of flight being within the province of the National Advisory Committee for Aeronautics, the other steps should be taken by private enterprise.

The committee recommends that provision be made for the coordination of flight testing of ground and air equipment and of fuel oils and lubricants by the Department of Commerce. The actual work should be done by the air lines flying without passengers, but receiving regular mail allowances. Experimental work in flights should not be counted in computing by the Interstate Commerce Commission fair rates of payments to be made by the Postmaster General.

National Advisory Committee for Aeronautics

It is in the interest of our national defense, and also of American commercial aeronautics that we should not lose our national superiority by permitting our technical development of aircraft to lag. The only way to prevent this is for us constantly to provide modern research facilities for the National Advisory Committee for Aeronautics.

The Committee recommends that the sum of $631,000 be allotted forthwith to the National Advisory Committee for Aeronautics for fundamental research.

Aircraft Engines

Almost every commission or congressional body that has investigated aeronautics during the past generation, has found that American aeronautics needs for safety and for other reasons, more powerful aircraft engines. Larger power plants than are now available in this country would contribute to safety on our air lines; types other than the conventional ottocycle engine might make for greater security in the varying conditions of flight. To provide the incentive for the development of engines that might well be of inestimable value in military aviation in the event of emergency, the committee makes a definite recommendation for the appropriation of $1,500,000 to bring into being proven higher powered American motors, the money to become immediately available and to remain available until expended. The Committee believes engines of between perhaps 3,000 and 4,000 horsepower desirable and necessary.

Structural Failures

The charge that there has been a tendency of air lines to lighten ships in order to increase their pay load has been investigated by the Committee and found to be without foundation. As a matter of fact, the Committee finds that there have been no major structural failures in the air in scheduled air-line operations for some considerable time.

Further Possibilities in Safety Inventions

The committee finds no evidence of accidents resulting from failure during the period of flight while the plane is en route. It is on the take-off and on the approach for landing in bad weather that the accidents have occurred. The greatest technical contribution to be made to safe flying is the positive reliable solution of the problem of instrument flying.

Having landing fields or terminals away from buildings, preferably away from deceptive water areas, on the highest land in the neighborhood is the first essential. A second proven ground aid would obviously be the installation of many more radio marker beacons in the environs of airports to enable the pilot to establish a definite "fix." Such technical improvements are within the field of the administrative agency of the Government; and the committee aims to be sure that such organization shall prevail that there can be no room for confusion, no chance for unnecessary delays in making decisions. There must be an alert attitude to insure progress of the science of air navigation, particularly in the problem of instrument flying on coming in for landing.

Governmental Administration

The committee is of the opinion that a sound solution of our aeronautical difficulties lies first in a revival of the office of Assistant Secretary of Commerce for Air, without assigning to that official any extraneous duties. There can be no intelligent planning and forethought continuously devoted to the present or future needs of civil aeronautics unless the existing administration be improved; for aeronautics within the Department of Commerce as it is organized today is a stepchild. The potentialities of the aeronautical industry amply justify the restoration of an office of the rank of Assistant Secretary, a position already legally provided for by act of Congress, and recommended by the Morrow Board.

Assistant Secretary for Aeronautics

In our proposed set-up the Assistant Secretary of Commerce (or, if this position be not restored, the Director of Aeronautics), with the approval of the Secretary of Commerce, is given the duties enumerated in section 172 of the Air Commerce Act of 1926, as amended. It is the thought of the com-

mittee that these responsibilities of the Secretary of Commerce fall into three categories: First, the promotion of aeronautics for the public good, together with the promotion of safety therein; second, the provision of approved aids and the control of all ground air navigation facilities, both private and public; and third, the control of all flight activities.

(1) The committee feels that the Director of Aeronautics, whether he be an Assistant Secretary of Commerce, or whatever title he be given should be the one person in the Department of Commerce directly responsible, under the Secretary, for general supervision of all the functions established by law to promote aeronautics and safety in the air.

(2) Reporting to him directly and to him only, should be an assistant responsible for the conduct and administration of a Division of Ground Facilities.

(3) Likewise, reporting directly and exclusively to him should be another assistant in charge of administration in the Division of Flight Activities.

Division of Ground Facilities

In the event that an Assistant Secretary of Commerce for Air is appointed, there should be established a Bureau of Federal Airways to do for aeronautics what the Bureau of Public Roads has done for highways.

In the event the Office of Assistant Secretary for Aeronautics be not restored and the work be supervised by a Director of Aeronautics, the two subdivisions of Ground Facilities and Flight Activities must be maintained, and must be segregated and delegated to assistants. The head of the Division of Ground Facilities should divide his responsibility into (a) construction and (b) maintenance. These two divisions must be kept apart and should not be placed in the hands of one man, or of the same field group; but the assistants in charge should be immediately responsible to the Chief of the Division of Ground Facilities, who in turn will report to the Director of Aeronautics.

Bureau of Federal Airways

In order to secure a well-conceived system of connecting airways and continuity of purpose and planning in the construction of such airways, there should be created within the Department of Commerce a Bureau of Federal Airways. The committee foresees a sensible, simultaneous growth in the construction and use of private planes and the development of federal airways, just as happened in the matter of private motor vehicles and surface highways. Industry, not Government, will solve the problem of the low-priced private airplanes. The Government should cease spending money in designing such aircraft for private use and should launch a sensible, continuous program, providing for the annual construction and maintenance of new and additional Federal aid to air navigation, which warrants the creation of a Bureau of Federal Airways within the Department of Commerce.

Division of Flight Activities

The Chief of Flight Activities should have charge of all air equipment and air personnel, applying the regulatory powers of Section 173 of the Air Commerce Act of 1926, as amended, for (a) registration of aircraft; (b) rating of aircraft as to air-worthiness; (c) examination and rating of airmen; (d) examination and rating of privately owned air navigation facilities; (e) air traffic rules; (f) issuance, suspension and revocation of certificates of all sorts; (g) supervision of schools and the instruction given to pilots and flight mechanics.

Inspection Force

The committee finds that there is a need for an increase in the inspection force of the Department of Commerce and a "tightening" up on its inspection

of both the air lines and the private flyers. The air lines request and the committee recommends that (a) the Government should have a maintenance inspector of one man at each complete air terminal; (b) two Government inspectors should be placed on each major airline; (c) one should be provided for each small air line, to inspect the enforcement of safety rules; (d) Government inspectors should be thoroughly qualified in the details of their business; (e) they should be appointed because of their experience and knowledge; (f) the "merit system," as distinguished from the political system, should prevail; and (g) Government inspectors, who are maintenance men, should visit the factories where airplanes are built during a sufficient period of time while new planes are under construction to make sure they shall be familiar with the planes when ready for use in the air.

Inspection of Radio Transmitters and Installation Aboard Aircraft

While the committee has not been able to find record of many failures in radio transmitters or receivers aboard airplanes, it is not entirely satisfied with the present system prevailing to regulate, inspect, and check this apparatus and the manner in which radio is handled in daily use. To insure that it shall always be properly taken care of, the committee intends later to recommend that certain obligations in safe operation be placed with the Federal Communications Commission in a Bureau of Aircraft Radio to be responsible for the occasional inspection, checks, warnings and enforcement on the normal operation of aircraft so far as radio is concerned. Licensing, approval of equipment, methods of installation and operation thereof, together with any standards, should be set up and flexibly administered by the Department of Commerce as at present.

Construction and Control at Air Terminals

The equipment and maintenance of certain selected landing areas should become a Federal or State or possibly a joint responsibility. The ownership, operation, and maintenance of an airport used in interstate commerce should be assumed by the largest possible political division enjoying the benefits from the facility. A further and supporting reason for suggesting Federal control and support of such landing areas along Federal airways is the growing use of municipal air terminals by military aircraft. The necessity for centralized control of every part of our Federal airways system, including air terminals, is indicated by the rapid development of radio control over all airplane movements on our Federal airways. The navigation of the airplane should be controlled, not only while the airplane is in the air, but also during its maneuvering on or about air terminals. The control of the Federal Government does not reach within the boundaries of the air terminals. Such a development is mandatory and should not be delayed.

Speedy Action Needed

The committee finds that the death of Senator Cutting was caused by the failure of the Government's ground organization to function properly, and by inadequate and deficient airway aids. There must be immediate action to expand all Federal airways, establish sufficient aids to air navigation and institute a program of safety so that there will be no further unnecessary destruction of lives.

Flying Hours

The Secretary of Commerce is not only authorized, but he is actually directed, by section 12 of the Air Mail Act, to fix maximum flying hours. While this section, as amended, thus beyond question governs the question of maximum flying hours for pilots, Section 13 pertains only to their other working conditions. Therefore, the Department of Commerce is exonerated,

in the opinion of the committee, from charges by witnesses to the effect that the Department had violated the law with respect to pilots' flying hours.

Pilot Fatigue

The committee considers the matter of pilot fatigue so fundamental and so necessary of accurate scientific determination that it believes immediate action should be taken and to that end recommends an appropriation of $50,000, the money to become immediately available and to remain available until expended in the financing of a scientific study of, and the securing of a scientific answer to the question of pilot fatigue.

Modern Flying

Although the Federal Government has contributed much in the way of aids to air navigation, unfortunately it has not kept pace with the recent strides in the art of flying, many of the present aids being obsolescent. Improvement and modernization of aids are important not only for scheduled air transport and the private flyer but are also a factor of tremendous importance to our national defense. Based on Department of Commerce cost figures, the estimated expense of the necessary navigational aids along those airways over which United States mail is flown totals $16,930,000.

$12,414,000 for Proven Aids Needed Now

The committee recommends the immediate appropriation of $10,000,000 so that construction of aids and their early operation will not be retarded, this sum to cover the urgent need for radio marker beacons of high frequency to mark zones of silence over airports, to mark mountain peaks or ridges in the proximity of terminals, and for traffic control.

The need of $2,364,000 annual additional appropriation for the Weather Bureau is urgent and can be placed in the same category.

Fifty thousand dollars should be made available at once for a study of pilot fatigue, making a total of $12,414,000, which should be appropriated from the Treasury forthwith and spent as quickly as is practicable. These the committee classes as emergency expenses.

The paucity of expenditures during the fiscal years 1933 to 1936, inclusive, during which instrument flying has become common, indicts the Government for failure to provide adequately for air navigational facilities.

Weather Reports and Safety

The committee urges that the present Congress not only reinstate the cuts heretofore made in the appropriations for the Weather Bureau, but also increase the amounts. Safety in the air depends to a great extent upon timely and accurate meteorological reports.

The development of weather service for flying activities in the United States has been and is chiefly along two lines: (1) the organization of a comprehensive network of stations giving reports of sufficient frequency and accuracy to provide a complete picture of current conditions and their changes with time; and (2) the charting and analysis of all this material in accordance with the results of modern studies of the structure and behavior of the various conflicting air masses whose interactions produce our weather. In carrying out the first objective, there is urgent need of a moderate extension of the present service along the following lines:

(a) Additional off-airway stations to provide reports which will show the approach of bad weather conditions toward the airways.

(b) Additional observations from stations already established.

(c) Additional funds are needed to make possible more frequent inspections of the observing stations.

(d) The extension of the teletype system of the Department of Commerce.

In connection with the second objective, namely, improvement of the forecasts, the following are the chief needs:

(a) A material increase in the number of upper-air observational stations. Observations should be more regular than at present, reach higher altitudes, and cover the country more completely.

(b) The authority to detail a limited number of men each year for the next few years to educational institutions that are equipped to give training in the modern technique in forecasting.

(c) Funds should be provided to increase the number of daily weather maps from two to four each day and also to increase from two to four the number of reports from ships at sea, a factor which will increase in importance as transoceanic flying becomes established.

Personnel in Scheduled Air-Line Industry

To ask the general public to provide the capital for our air transport companies and simultaneously to prohibit by law the procurement of the highest possible grade of efficient personnel must serve to handicap safety, as well as progress in aeronautics. The committee cannot agree with the theory of the present air-mail law which places rigid limitations upon stockholders, directors, officials, and employees of air-transport companies; and the provision specifying a maximum salary of $17,500 a year should be repealed.

Profit and Loss

Since safety in air transport depends on expensive equipment and timely improvements in personnel and planes, for which there must be reasonable profits, it is evident that until the air-transport business can be placed upon a profitable basis the situation is unhealthy. Investigation indicates that the losses of the air-mail carriers in the fiscal year ended June 30, 1935, were about $4,000,000. Their losses are now less, but continue to be precarious. At least a part of the losses of the air-mail carriers can be traced to the Government, without compensation to the carriers, for requiring changes, advancements and improvements in safety, performance, equipment, stops, increasing the pay of pilots, etc. These and other changes have been made by law, or by Government departments at the expense of the air lines; the air lines have been granted no commensurate compensation to enable them to carry out their contractual duties. It is therefore only just to recommend that legislation be provided granting a remedy to the air-mail carriers, such as is provided by law to the carrier of mail by ships.

Refinancing Needs

The scheduled air-transport industry is a legitimate business and has the right to request the support of the investing public. It should be no more hampered in raising its legitimate capital than is any other common carrier serving the necessity and convenience of the public.

Other Essentials—Post Office Department Types of Air Mail

The United States should continue its policy of encouraging transport through contracts with the Post Office Department for the carriage of mail. The transportation of first-class letter mail by air, whenever and wherever time can be saved, will confer great benefits on all classes of citizens; and as a result of the greatly increased and assured volume of such mail with the consequent revenue, larger aircraft, giving increased comfort and convenience, as well as faster and more frequent schedules, can be provided. A decision of the Government to carry letter mail by air without a surcharge, will in time, doubtless come to be regarded as necessary and desirable. Lower-cost air postage will give increased energy to trade and will confer many advantages which are in the public interest.

It is generally agreed, however, by the committee that it is quite unfair to charge against the Post Office Department the cost of subsidizing ocean or air services. To do so gives a false impression as to the actual cost of operation of the post-office system. Some method must be found to promote the development of larger, speedier and safer aircraft, whether by subsidy or through payment for air-mail service. The committee does not decide which is the most reasonable method of procedure, but respectfully refers the problem to the Committee on Post Offices and Post Roads.

Court Decisions

It seems to your committee that the Air Commerce Act of 1926 was intended to apply to all types of flying on the theory that it is necessary to regulate all types of flying in order to protect interstate commerce. But the Supreme Court of California in *Parker* v. *Granger* has recently decided that Federal air-traffic rules do not apply to intrastate flying. If Federal air-traffic rules do not apply to intrastate flying, and if there are, as in the case in California, no State rules, regulations, or laws, then there is no means by which miscellaneous flying may be controlled. We are well aware of the fact that miscellaneous flying in air-miles is greater than all interstate flying, and has heretofore been unregulated, and that it is considered to be the greatest source of accidents. We recommend that the Department of Commerce make a test case of this decision and take it to the United States Supreme Court before too many of the State courts follow the example of California and build up a formidable body of State laws adverse to public safety.

Interstate Commerce Commission

There is need for an official body which can keep in close touch with the air-transportation situation, watch developments, study the larger problems, foresee dangers which are impending, promote the cause of coordination, and advise both the President and the Congress in regard to air-transportation policies.

Should it seem wise to turn over to the Interstate Commerce Commission certain functions, there should be left to the Department of Commerce the responsibility for safety. With the safety division of the Interstate Commerce Commission there might be placed the responsibility for a decision as to the cause of an air-line accident when an appeal is requested from the decision of the Department of Commerce. Such matters in the case of nonscheduled and private flying should remain in the Department of Commerce.

Control of Safety Regulations

The committee is of the opinion that statutes pertaining to safety should neither be narrow and restrictive nor too specific. The art of aeronautics is changing so speedily that nothing should be done to limit it unduly. The promotion of safety in the air demands that legislation be solely of a general nature, authorizing and directing the proper regulatory body to specify what is needed for safety, and to alter or amend its regulations and specifications from time to time as conditions change or as the science advances.

The Autogiro

The unique, inherent features in this type of craft, which should be placed in a third category distinct from the airplane and the lighter-than-air craft, present vast fields of possibility. Recognizing the peculiar advantages, for particular missions, obtained by using the autogiro, two of our Government agencies are now acquiring, and will soon put to use, this third vehicle of the air. From these operations we should learn the practicability of this machine for taxi work, from terminals to close-in boroughs of large cities,

and for special missions requiring slow, low flights, such as rescue and first-aid flights.

Lighter-Than-Air Ships

The committee gave only incidental consideration to the problem of safe transportation, and particularly over-seas transportation, by lighter-than-air ships. It became evident that the development of the airship in America has been seriously retarded by inactivity on the part of the Government, while the continued operations of German lighter-than-air ships have shown conclusively that airships can be operated safely and that large commercial airships show great promise as a safe means for bulk transport over world trade routes.

Pending the detailed investigation and recommendation which the Maritime Commission, by Sec. 211 (g) of the Merchant Marine Act, 1936, has been directed to make, the committee has not deemed it advisable to make specific recommendations on this subject.

Washington and Other Major Airports

The committee recommends that the matter of providing the city of Washington with a safe and creditable airport and also a proper auxiliary airport be provided for without further delay.

The committee finds that all major air terminals need not only a close-in airport, but also an auxiliary instrument landing terminal. One should be close-in, or the most convenient airport to the center of the community, and the other ought to be located a considerable distance out in the suburbs, on land possessing all the natural benefits of a safe airport. The close-in airport should be the best obtainable, but may be subject to limitations and restrictions in bad weather, making it then useless, but of great value in fair weather. It should be reserved at all times exclusively for scheduled air transport and on it should be located the main air-mail station for the city. The auxiliary field "far out" should normally be confined to private and nonscheduled flying. In bad weather, however, it would be employed by the airlines in blind landings when private fliers are seldom in the air.

There are three definite contributions which the Government can make to encourage the use of such landing practice which will enhance safety: First: The Government can establish substations for mail to be located on the auxiliary fields. These would minimize mail delay due to landing at the adjacent field. Second, the Government could equip these alternate fields with every proven blind-landing facility known. Third, the Federal Bureau of Public Roads could instigate a program of constructing the so-called "superhighways" from one approved "far out" field in each large city to the business centers.

National Defense Policy; Mobilization; Reserve of Personnel Not on Extended Active Military Duty

An aeronautical program, complete in all essentials, is absolutely essential to the national defense. A satisfactory number of aircraft manufacturers and aircraft users, capable of rapid expansion in an emergency, should be maintained in time of peace as the nucleus of a wartime aeronautical force.

Congress should appropriate this year, as a part of the War Department bill, sufficient funds so that the President may, during the course of annual maneuvers, mobilize our scheduled air lines, at least during one or more days, so that the War Department may try out the efficacy of such of its mobilization plans as pertain to the use of our domestic air lines in time of emergency.

The large number of pilots and technical personnel engaged in civil and commercial aeronautics constitutes a reserve which is an important

factor from the standpoint of national defense. These groups of highly trained citizens should be encouraged to join the Air Corps Reserve, and provision should be made for their annual military training.

Installation of Parachutes on Commercial Air Lines

From year to year various bills contemplating a legislative requirement that parachutes be installed on commercial scheduled air liners have been introduced into Congress. The committee believes the idea unsound at this stage in the science of aeronautics, for to require by legislation the use of parachutes in air lines might even detract from existing safety standards. The suggestion is one which continues to recur for two reasons: (a) The lack of knowledge regarding the technicalities and difficulties involved in the use of parachutes in air emergencies, and (b) well-intentioned persons who desire further safety but who are unfamiliar with the facts.

The factors which militate against the use of parachutes in commercial air transportation may be resolved into three groups: First, the circumstances immediately preceding accidents and under which major transport accidents occur; second, the inherent defects of the parachute itself; third, the psychological reaction of the human being unfamiliar with aeronautics being faced with the contingency of making a parachute jump.

Government Travel

It is the opinion of the Committee that the United States needs to augment the usefulness of its employees by declaring by law, if necessary, that air travel is now a "common and ordinary" form of transportation; so that Government employees may be permitted to travel by air, paying the same rate and charges as the general public may pay, and being reimbursed accordingly on their expense accounts when the travel performed is necessary in the Government service.

American and Foreign Trade

In air transport we find the greatest means of advance in foreign commerce since the invention of the steamship, and as a result the United States has, as a nation, the greatest interest in the progress of aviation. The accomplishments in Latin America are set out, where, under the United States Foreign Mail Act, transport by air has been well established and constantly improved since 1928. The committee recognizes the part played by the airways in knitting all the Americas into a closer neighborhood and in stimulating social and commercial intercourse.

Overseas air transport has not yet reached the point where it can wholly sustain itself commercially. It will be a considerable time before it can become self-supporting in foreign trade. Every one of the great nations has found it necessary to subsidize the construction and operation of their fleets engaged in international air commerce. If the United States desires aircraft to carry its commerce, and if it desires to maintain the American wage scale, both in its aircraft factories and in the air, it is apparent that Government aid is still required for air carriers engaged in international air commerce.

Alaska

The committee believes that the development of the Territory of Alaska depends upon a more adequate communication and transportation service, and that the airplane is the solution of that transportation problem. In addition to providing better transportation and communication by air across Alaska, provision should be made for greater frequency of service. The committee recommends that the Congress provide an appropriation for "foreign" air mail between Juneau and Fairbanks, Alaska; and suggests that the

Post Office Department might well request an amendment to the Alaska star-route law, which will permit the Postmaster General to provide reasonable surcharges on mail carried by air over those airlines. The additional airway aids recommended, *supra,* for Alaska, are needed, not only to cover the needs of national defense, but to make possible the only feasible transportation system that can be installed to develop the country.

Nonscheduled and Private Flying and Accidents

There is a national lack of appreciation of the importance of nonscheduled flying. The Government has not only a direct function in private and miscellaneous flying, but, indirectly, private flying has an important bearing on scheduled air-line flying. The future of the aeronautical industry and its relationship to our problems of national defense are dependent upon private flying. The Government should take an important and definite step by providing for private flying the air-navigation facilities, including landing areas, that are lacking today. The inspection force of the Bureau of Air Commerce should be increased to provide sufficient inspection of nonscheduled flying operations, planes and personnel; and ample provision should be made for the inspection force to cover their itineraries without loss of time.

Recapitulation and Final Recommendations

The committee believes it impracticable to attempt at this time to place all Federal powers pertaining to civil aeronautics in a new and separate agency of the Government. The problem of transportation will soon become a major one for national consideration, and for the present it seems wise to fit these duties into their logical assignment in our present grid of government. Of the recommendations made by the committee, two are deemed emergency measures on which immediate action is imperative: (1) Governmental reorganization; (2) Appropriations totalling $12,414,000.

INTERNATIONAL REGULATION

C.I.T.E.J.A. COMMISSION MEETINGS

According to information received by the Department of State from the Secretary General of the International Technical Committee of Aerial Legal Experts (C.I.T.E.J.A.), the First, Second, Third and Fourth Commissions of the Committee will meet in Paris May 28 to June 3, 1937. The subjects which will be considered by the Commissions are:

First Commission—Interpretation of conventions;[1]
Second Commission—Chartering of aircraft;[2]
Third Commission—Assistance and salvage of aircraft on land;[3]
Fourth Commission—Legal Status of the personnel of aircraft.[4]

All of the above-mentioned subjects were discussed at the sessions of the four Commissions held in Paris in February, 1936.[5] Following the discussions, the reporters of the several Commissions were directed to revise certain draft proposals and to submit further reports on the subjects listed above. It is expected that these revised draft proposals and reports will form the basis of discussion at the forthcoming sessions of the Commissions. Copies of the documents containing these reports and revised draft proposals are not yet available.

NETHERLANDS RATIFIES PROTOCOL AMENDING C.I.N.A.[6]

With a despatch dated February 1, 1937, the American Minister to the Netherlands transmitted to the Secretary of State a copy of *Law Bulletin*

1. See C.I.T.E.J.A. Document Nos. 212 (May, 1934, Report of Mr. de Lapradelle); 228 (Sept., 1934, Report of Mr. de Lapradelle); 229 (Sept., 1934, p. 2) Work of First Commission; 230 (Sept., 1934, Remarks of the American Delegation); 239 (Oct. 1934, Minutes of Meetings, Berlin, Sept. 24-25, 1934); 286 (Feb., 1936, Report of Mr. de Lapradelle); 293 (Feb., 1936, Observations of American delegates, and especially Appendix C of Report of American delegates to the Secretary of State, June 15, 1936).
2. See C.I.T.E.J.A. Document Nos. 288 (Feb., 1936, Report of Mr. Cogliolo); 300 (May, 1936, Observations of the Swiss Expert); 301 (June, 1936, Observations of the Hungarian Expert); 304 (July, 1936, Observations of Netherland Expert); 307 (Sept., 1936, Observations of German delegation); 313 (Sept., 1936, Observations of Netherland Expert).
3. See C.I.T.E.J.A. Document Nos. 294 (Feb., 1936, Observation of American delegates, and especially Appendix F of Report of American delegates to the Secretary of State, June 15, 1936); 296 (March, 1936, Minutes of the Meeting of the Third Commission, Paris, Feb., 1936, pp. 18-27).
4. See C.I.T.E.J.A. Document Nos. 119 (Sept., 1931, Report and preliminary draft convention submitted by Mr. Babinski); 127 (Oct., 1931, Draft Convention adopted provisionally by the C.I.T.E.J.A. during the course of the Sixth Session, Paris, Oct. 23-24, 1931); 222 (Aug., 1934, Report on status of work of the Fourth Commission); 240 (Oct., 1934, Minutes of the Meeting of the Fourth Commission, Berlin, Sept. 25, 1934); 241 (Nov., 1934, Italian Law of Feb. 8, 1934, establishing a legal status for air navigation personnel); 246 (April, 1935, Report of Mr. Babinski on draft convention); 264 (Sept., 1935, Report of Secretary General of the C.I.T.E.J.A. on the 34th Session of the I.A.T.A. held at Brussels, Aug. 22-24, 1935); 283 (Jan., 1936, Statement of reasons and second preliminary draft convention submitted by Mr. Babinski); 292 (Feb., 1936, Observations of American delegates and especially see Appendix H to Report of American delegates to the Secretary of State, June 15, 1936); 299 (Mar., 1936, Minutes of the Meetings, Fourth Commission, Paris, Feb., 1936).
5. See 7 JOURNAL OF AIR LAW 386 (1936) for report of this meeting.
6. Department of State, *Treaty Information*, Bulletin No. 89, p. 15, February, 1937.

No. 99T, of January 19, 1937, which publishes the ratification by the Netherlands of the protocol signed at Paris June 1, 1935, amending the International convention signed at Paris October 13, 1919, relating to the regulation of aerial navigation.

ARRANGEMENT BETWEEN THE UNITED STATES AND CANADA FOR THE ADMISSION OF CIVIL AIRCRAFT, THE ISSUANCE OF PILOTS' LICENSES, AND THE ACCEPTANCE OF CERTIFICATES OF AIRWORTHINESS FOR AIRCRAFT IMPORTED AS MERCHANDISE[7]

The American Minister to Canada transmitted to the Acting Secretary of State with a despatch dated December 2, 1936, a copy of a note from the Secretary of State for External Affairs of Canada concerning the arrangement between the United States and Canada regarding civil aviation, effected by an exchange of notes dated August 29 and October 22, 1929. The note is quoted below:

No. 147.

SIR:

I have the honour to refer to the exchange of notes of August 29th and October 22, 1929, recording the agreement between Canada and the United States regarding civil aviation.

In several paragraphs of the agreement reference is made to the Department of National Defence of Canada and to various acts or functions to be carried out by that Department.

Pursuant to the Department of Transport Act, 1936 (Statutes of Canada, 1936, Chap. 34) the control and supervision of the Civil Aviation Branch, formerly of the Department of National Defence, has now been transferred from the Minister of National Defence to the Minister of Transport, and the Branch itself has been transferred from the Department of National Defence to the Department of Transport. It is further provided that any duty, power or function vested in or performed or exercised by any officer of the Civil Aviation Branch of the Department of National Defence shall now be vested in or performed or exercised by the appropriate officer of the Department of Transport.

I would request that the above mentioned agreement be construed accordingly, so that wherever the words "Department of National Defence of Canada," or words of similar import, appear in the agreement they shall hereafter be taken to mean "Department of Transport of Canada."

Accept [etc.].

O. D. SKELTON,
(For Secretary of State for External Affairs).

The United States Minister to Canada,
United States Legation,
Ottawa.

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7. Executive Agreement Series, No. 2; see Department of State, *Treaty Information*, Bulletin No. 1, October, 1929, p. 17.

IBERO-AMERICAN CONVENTION RELATING TO AIR NAVIGATION[8]

CONCLUDED BETWEEN SPAIN, ARGENTINA, BOLIVIA, BRAZIL, COLOMBIA, COSTA RICA, CUBA, CHILE, DOMINICAN REPUBLIC, ECUADOR, SALVADOR, GUATEMALA, HONDURAS, MEXICO, NICARAGUA, PANAMA, PARAGUAY, PERU, PORTUGAL, URUGUAY AND VENEZUELA.

The representatives of the States enumerated above, who have met for a first Ibero-American Aeronautical Conference, held at Madrid in the month of October, 1926, have by common agreement given their approval to the following provisions:

CHAPTER I

General principles

ART. 1. The High Contracting Parties recognize that every Power has complete and exclusive sovereignty over the air space above its territory.

For the purpose of the present Convention the territory of a State shall be understood as including the national territory, both that of the mother country and of the colonies, and the territorial waters adjacent thereto.

ART. 2. Each contracting State undertakes in time of peace to accord freedom of innocent passage above its territory to the aircraft of the other contracting States, provided that the conditions laid down in the present Convention are observed.

Regulations made by a contracting State as to the admission over its territory of the aircraft of the other contracting States shall be applied without distinction of nationality.

ART. 3. Each contracting State is entitled for military reasons or in the interest of public safety to prohibit the aircraft of the other contracting States, under the penalties provided by its legislations and subject to no distinction being made in this respect between its private aircraft and those of the other contracting States, from flying over certain areas of its territory.

In that case the locality and the extent of the prohibited areas shall be published and notified beforehand to the other contracting States.

ART. 4. Every aircraft which finds itself above a prohibited area shall, as soon as aware of the fact, give the signal of distress provided in Paragraph 17 of Annex D and land as soon as possible outside the prohibited area at one of the nearest aerodromes of the State unlawfully flown over.

CHAPTER II

Nationality of aircraft

ART. 5. *The contracting States shall be entirely free either to authorize or to prohibit the flight over their territory of aircraft possessing the nationality of a non-contracting State.*

ART. 6. Aircraft possess the nationality of the State on the register of which they are entered, in accordance with the provisions of Section I (c) of Annex A.

ART. 7. No aircraft shall be entered on the register of one of the contracting States unless it belongs wholly to nationals of such State.

No incorporated company can be registered as the owner of an aircraft unless it possess the nationality of the State in which the aircraft is registered, unless the President or chairman of the company and at least two-

8. This Convention is published here at this time merely for the purpose of including it, as an historical document, in the JOURNAL OF AIR LAW, since translations of it are not found in many other sources.

Note by the Secretariat of the I.C.A.N.—The divergencies between the text of the Ibero-American Convention and that of the International Convention of the 13th October, 1919, are *italicized* in this translation.

thirds of the directors possess such nationality, and unless the company fulfills all other conditions which may be prescribed by the laws of the said State.

If any Ibero-American State signatory to the Convention finds any incompatibility between the requirements laid down in this Article as indispensable for allocating the nationality to an aircraft and the home legislation of the said State, it may incorporate the necessary reservation in an additional protocol to the Convention.

Any State making such a reservation shall be free to lay down regulations for the registration of its aircraft and flight above its territory and territorial waters but in no case can the advantages specified in this Convention be conceded to the other signatory or adhering States, except in the case of aircraft which fulfill all the requirements expressly defined in the first two paragraphs of this Article.

ART. 8. An aircraft cannot be validly registered in more than one State.

ART. 9. The contracting States shall exchange every month among themselves and transmit to the Ibero-American Commission for Air Navigation referred to in article 34 copies of registrations and of cancellations of registrations which shall have been entered on their official registers during the preceding month.

ART. 10. All aircraft engaged in international navigation shall bear their nationality and registration marks as well as the name and residence of the owner in accordance with Annex A.

CHAPTER III

Certificates of airworthiness and competency

ART. 11. Every aircraft engaged in international navigation shall, in accordance with the conditions laid down in Annex B, be provided with a certificate of airworthiness issued or rendered valid by the State whose nationality it possesses.

ART. 12. The commanding officer, pilots, engineers and other members of the operating crew of every aircraft shall, in accordance with the conditions laid down in Annex E, be provided with certificates of competency and licences issued or rendered valid by the State whose nationality the aircraft possesses.

ART. 13. Certificates of airworthiness and of competency and licences issued or rendered valid by the State whose nationality the aircraft possesses, in accordance with the regulations established by Annex B and Annex E and hereafter by the Ibero-American Commission for Air Navigation, shall be recognized as valid by the other States.

Each State has the right to refuse to recognize for the purpose of flights within the limits of and above its own territory certificates of competency and licences granted to one of its nationals by another contracting State.

ART. 14. No wireless apparatus shall be carried without a special licence issued by the State whose nationality the aircraft possesses. Such apparatus shall not be used except by members of the crew provided with a special licence for the purpose.

Every aircraft used in public transport and capable of carrying ten or more persons shall be equipped with sending and receiving wireless apparatus when the methods of employing such apparatus shall have been determined by the *Ibero-American* Commission for Air Navigation.

This Commission may later extend the obligation of carrying wireless apparatus to all other classes of aircraft in the conditions and according to the methods which it may determine.

CHAPTER IV

Admission to air navigation above foreign territory

ART. 15. Every aircraft of a contracting State has the right to cross the air space of another State without landing. In this case it shall follow the route fixed by the State over which the flight takes place. However, for

reasons of general security it will be obliged to land if ordered to do so by means of the signals provided in Annex D.

Every aircraft which passes from one State into another shall, if the regulations of the latter State require it, land in one of the aerodromes fixed by the latter. Notification of these aerodromes shall be given by the contracting States to the *Ibero-American* Commission for Air Navigation and by it transmitted to all the contracting States.

The establishment of international airways shall be subject to the consent of the States flown over.

ART. 16. Each contracting State shall have the right to establish reservations and restrictions in favour of its national aircraft in connection with the carriage of persons and goods for hire between two points on its territory.

Such reservations and restrictions shall be immediately published, and shall be communicated to the *Ibero-American* Commission for Air Navigation, which shall notify them to the other contracting States.

ART. 17. The aircraft of a contracting State which establishes reservations and restrictions in accordance with Article 16, may be subjected to the same reservations and restrictions in any other contracting State, even though the latter State does not itself impose the reservations and restrictions on other foreign aircraft.

ART. 18. Every aircraft passing through the territory of a contracting State, including landing and stoppages reasonably necessary for the purpose of such transit, shall be exempt from any seizure *or sequestration* on the ground of infringement of patent, design or model, subject to the deposit of security the amount of which in default of amicable agreement shall be fixed with the least possible delay by the competent authority of the place of *sequestration.*

CHAPTER V

Rules to be observed on departure when under way and on landing

ART. 19. Every aircraft engaged in international navigation shall be provided with:

(a) A certificate of registration in accordance with Annex A;
(b) A certificate of airworthiness in accordance with Annex B;
(c) Certificates and licences of the commanding officer, pilots and crew in accordance with Annex E;
(d) If it carries passengers, a list of their names;
(e) If it carries freight, bills of lading and manifest;
(f) Log books in accordance with Annex C;
(g) If equipped with wireless, the special licence prescribed by Article 14.

ART. 20. The log books shall be kept for two years after the last entry.

ART. 21. Upon the departure or landing of an aircraft, the authorities of the country shall have, in all cases, the right to visit the aircraft and to verify all the documents with which it must be provided.

ART. 22. Aircraft of the contracting States shall be entitled to the same measures of assistance for landing, particularly in cases of distress, as national aircraft.

ART. 23. With regard to the salvage of aircraft wrecked at sea the principles of maritime law will apply, in the absence of any agreement to the contrary.

ART. 24. Every aerodrome in a contracting State, which upon payment of charges is open to public use by its national aircraft, shall likewise be open to the aircraft of all the other contracting States.

In every such aerodrome there shall be a single tariff of charges for landing and length of stay applicable alike to national and foreign aircraft.

ART. 25. Each contracting State undertakes to adopt measures to ensure that every aircraft flying above the limits of its territory and that every aircraft wherever it may be, carrying its nationality mark, shall comply with the regulations contained in Annex D.

Each of the contracting States undertakes to ensure the prosecution and punishment of all persons contravening these regulations.

CHAPTER VI

Prohibited transport

ART. 26. The carriage by aircraft of explosives and of arms and munitions of war is forbidden in international navigation. No foreign aircraft shall be permitted to carry such articles between any two points in the same contracting State.

ART. 27. Each State may, in aerial navigation, prohibit or regulate the carriage or use of photographic apparatus. Any such regulations shall be at once notified to the *Ibero-American* Commission for Air Navigation, which shall communicate this information to the other contracting States.

ART. 28. As a measure of public safety, the carriage of objects other than mentioned in articles 26 and 27 may be subjected to restriction by any contracting State. Any such regulations shall be at once notified to the *Ibero-American* Commission for Air Navigation, which shall communicate this information to the other contracting States.

ART. 29. All restrictions mentioned in Article 28 shall be applied equally to national and foreign aircraft.

CHAPTER VII

State aircraft

ART. 30. The following shall be deemed to be State aircraft:

(a) Military aircraft.

(b) Aircraft exclusively employed in State service, such as posts, customs, police.

Every other aircraft shall be deemed to be a private aircraft.

All State aircraft other than military, customs and police aircraft shall be treated as private aircraft and as such shall be subject to all the provisions of the present Convention.

ART. 31. Every aircraft commanded by a person in military service detailed for the purpose shall be deemed to be a military aircraft.

ART. 32. No military aircraft of a contracting State shall fly over the territory of another contracting State nor land thereon without special authorization. In case of such authorization the military aircraft shall enjoy, in principle, in the absence of special stipulation the privileges which are customarily accorded to foreign ships of war.

A military aircraft which is forced to land or which is requested or summoned to land shall by reason thereof acquire no right to the privileges referred to in the above paragraph.

ART. 33. Special arrangements between the States concerned will determine in what cases police and customs aircraft may be authorized to cross the frontier. They shall in no case be entitled to the privileges referred to in Article 32.

CHAPTER VIII

Ibero-American Commission for Air Navigation

ART. 34. There shall be instituted, under the name of the *Ibero-American* Commission for Air Navigation, a permanent Commission (*one clause deleted*), composed of *one representative* for each of the contracting States.

Each of the States shall have one vote.

The *Ibero-American* Commission for Air Navigation shall determine the rules of its own procedure and the place of its permanent seat, but it shall be free to meet in such places as it may deem convenient. Its first meeting shall take place at *Madrid*. This meeting shall be convened by the *Spanish* Government, as soon as a majority of the signatory States shall have notified to it their ratification of the present Convention.

The duties of this Commission shall be:

(a) To receive proposals from or to make proposals to any of the contracting States for the modification or amendment of the provisions of the present Convention, and to notify changes adopted;

(b) To carry out the duties imposed upon it by the present Article and by Articles 9, 13, 14, 15, 16, 27, 28, 36 and 37 of the present Convention;

(c) To amend the provisions of the Annexes.

(d) To collect and communicate to the contracting States information of every kind concerning international air navigation;

(e) To collect and communicate to the contracting States all information relating to wireless telegraphy, meteorology and medical science which may be of interest to air navigation;

(f) To ensure the publication of maps for air navigation;

(g) To give its opinion on questions which the States may submit for examination.

Any modification of the provisions of any one of the Annexes may be *adopted* by the *Ibero-American* Commission for Air Navigation when such modification shall have been approved by three-fourths of the *absolute* total of votes, *that is to say,* of *the total number of votes* which could be cast if all the States were represented. (A clause deleted.) *It* shall become effective from the time when it shall have been notified by the *Ibero-American* Commission for Air Navigation to all the contracting States.

Any proposed modification of the Articles of the present Convention shall be examined by the *Ibero-American* Commission for Air Navigation, whether it originates with one of the contracting States or with the Commission itself. No such modification shall be proposed for adoption by the contracting States, unless it shall have been approved by at least two-thirds of the *absolute* total of votes.

All such modifications of the Articles of the Convention (but not of the provisions of the Annexes) must be formally adopted by the contracting States before they become effective.

The expenses of organization and operation of the *Ibero-American* Commission for Air Navigation shall be borne by the *State on whose territory it shall meet.*

The expenses occasioned by the sending of technical delegations will be borne by their respective States.

CHAPTER IX

Final provisions

ART. 35. The High Contracting Parties undertake as far as they are respectively concerned to cooperate as far as possible in international measures concerning:

(a) The collection and dissemination of statistical, current, special meteorological information;

(b) The publication of standard aeronautical maps, and the establishment of a uniform system of ground marks for flying;

(c) The use of wireless telegraphy in air navigation, the establishment of the necessary wireless stations, and the observance of international wireless regulations.

ART. 36. Provisions relative to customs in connection with international air navigation *shall be* the subject of a special agreement *and shall be determined temporarily by the laws and regulations in force in each country.*

Nothing in the present Convention shall be construed as preventing the contracting States from concluding, in conformity with its principles, special protocols as between State and State in respect of customs, police, posts and other matters of common interest in connection with air navigation. Any such protocols shall be at once notified to the *Ibero-American* Commission for Air Navigation which shall communicate this information to the other contracting States.

ART. 37. In the case of a disagreement between two or more States relating to the interpretation of the present Convention, the question in dispute shall be determined (*a clause deleted*) by arbitration.

If the parties do not agree on the choice of the arbitrators, they shall proceed as follows:

Each of the parties shall name an arbitrator, and the arbitrators shall meet to name an umpire. If the arbitrators cannot agree, the parties shall each name a third State, and the third State so named shall proceed to designate the umpire, by agreement or by each proposing a name and then determining the choice by lot.

Disagreement relating to the technical regulations annexed to the present Convention, shall be settled by the decision of the *Ibero-American* Commission for Air Navigation by a majority of votes.

In case the difference involves the question whether the interpretation of the Convention or that of a regulation is concerned, final decision shall be made by arbitration as provided in the first paragraph of this Article.

ART. 38. In case of war, the provisions of the present Convention shall not affect the freedom of action of the contracting States either as belligerants or as neutrals.

ART. 39. The provisions of the present Convention are completed by the Annexes, which, subject to Article 34 (c), shall have the same effect and shall come into force at the same time as the Convention itself.

ART. 40. The territories and nationals of Protectorates or of territories administered in the name of the League of Nations, shall, for the purpose of the present Convention, be assimilated to the territory and nationals of the Protecting or Mandatory States.

ART. 41. States which are not *Ibero-American* shall be permitted to adhere to the Present Convention.

This adhesion shall be notified through the diplomatic channel to the *Spanish* Government, and by it to all the signatory or adhering States.

ART. 42. In case of denunciation of the present Convention, notification thereof shall be made to the *Spanish* Government, which shall communicate it to the other contracting Parties. Such denunciation shall not take effect until at least one year after the giving of notice, and shall take effect only with respect to the Power which has given notice.

The present Convention shall be ratified.

Each power will address its ratification to the *Spanish* Government, which will inform the other signatory Powers.

The ratification will remain deposited in the archives of the *Spanish* Government.

The present Convention will come into force for each signatory Power, in respect of other Powers which have already ratified, forty days from the date of the deposit of its ratification.

ART. 43. *The signature of the present Convention does not imply the cancellation of agreements concluded on the same subject in previous conventions by the Ibero-American contracting States.*

Done at *Madrid*, the *first day of November Nineteen Hundred and Twenty-six* in a single copy which shall remain deposited in the archives of the *Spanish* Government and of which duly authorized copies shall be sent to contracting States. The said copy, dated as above, may be signed until the *first* day of *February Nineteen Hundred and Twenty-seven* inclusively.

IN FAITH WHEREOF, the undersigned have signed the present Convention:

FOR SPAIN: José de Yanguas, Minister of State. Juan F. De Cardenas. Delegate.

Signed "ad referendum."

FOR ARGENTINA: Carlos de Estrada.
FOR BOLIVIA: J. E. Guerra.
FOR BRAZIL: Hippolyte Alves de' Araujo.
FOR COLOMBIA: Guillermo Camacho Carrizosa.
FOR COSTA RICA: Adriano M. Lanuza.
FOR CUBA: M. G. Kohly.
FOR CHILE: E. Rodriguez Mendoza.
FOR THE DOMINICAN REPUBLIC: Oswaldo Brazil.
FOR ECUADOR: Hipólito de Mozoncillo.
FOR SALVADOR: R. Schönenberg.

FOR GUATEMALA: E. Traumann.
FOR HONDURAS: Luis de Figueroa.
FOR MEXICO: Enrique González Martinez.
FOR NICARAGUA: M. Ig. Terán.
FOR PANAMA: M. Lasso de la Voga.
FOR PARAGUAY:
FOR PERU: E. S. Leguia.
FOR PORTUGAL: Joao Carlos de Mello Barreto.
FOR URUGUAY:
FOR VENEZUELA: Alberto Urbaneja.

ANNEXES[9]

9. *Note by the Secretary General of the I.C.A.N.:* Annexes A, B, C, D and E to the Ibero-American Convention reproduce, with very slight differences, the corresponding Annexes to the Air Convention of 13th October, 1919 (Edition of December, 1925).

Annexes F, G and H to the Air Convention of the 13th October, 1919, have no equivalent in the Ibero-American Convention.

NOTES, COMMENTS, DIGESTS

COMMENTS AND OPINIONS

Municipal Corporations—Liability for Injuries at Municipal Airport.—[Georgia] Plaintiff rode out to defendant's airport on a motorcycle with a passenger. After finishing a conversation with a city employee, plaintiff started back to the city on the pavement inside the airport. When the motorcycle struck a broken part of the pavement, plaintiff was thrown and severely injured. Plaintiff alleged that the city permitted the pavement to become broken, defective and dangerous and that the holes existed for such a length of time that the defendant was charged with notice thereof, and was therefore negligent in failing to keep the pavement in a safe and suitable condition for persons operating vehicles over it. The city demurred contending that its operation of the airport was a governmental function and hence there could be no liability while acting in this capacity. The trial court overruled the demurrer and the city excepted. The appellate court reversed and entered judgment for the city. *Mayor of Savannah* v. *Lyons*, 189 S. E. 63 (Ct. App. Ga. 1936).

The court's decision that the airport is to be considered in the nature of a park in the discharge of its "governmental" duty, thus preventing any liability attaching, raises the long controverted issue of whether or not a particular function carried on by a municipality is, on the one hand, "sovereign," "governmental," "political," or is, on the other hand, "corporate," "proprietary," "municipal."[1] Once the function is labeled, the result as concerns tort liability is well known. Courts have, nevertheless, experienced great difficulty in applying these categories to a particular set of facts for the distinction is at best shadowy, vague and uncertain.[2] Thus it is not unnatural for courts in separate jurisdictions to reach contrary conclusions as to whether or not similar enterprises are corporate or governmental. Though there are several tests which courts use in deciding into which category the function belongs, it seems as though many courts first determine whether liability ought to exist and then use these words to rationalize the conclusion. There is, however, the danger that some courts might place a particular set of facts in one

1. A similar controversy arose in *City of Blackwell* v. *Lee*, 62 P. (2d) 1219 (Okla. 1936) where plaintiff's plane was burned in the hangar of a municipal airport. The court held the defendant liable, stating that it operated the airport in a proprietary capacity. The entire problem is adequately covered in 1 JOURNAL OF AIR LAW 365 (1930) which discusses *Mobile* v. *Lartigue*, 127 So. 257 (Ala. App. 1930). See note, 2 JOURNAL OF AIR LAW 436 (1931) discussing *Coleman* v. *Oakland*, 64 Cal. App. 732, 295 Pac. 59 (1931). Other cases raising the problem are: *Mollencop* v. *City of Salem*, 139 Ore. 137, 8 P. (2d) 783 (1932); *Krenwinkle* v. *City of Los Angeles*, 4 Cal. (2d) 611, 51 P. (2d) 1098 (1936). See also, *Hubbard, MacClintock and Williams*, Airports (1930). *Doddridge*, in his article "Distinction between Governmental and Proprietary Functions of Municipal Corporations," 23 Mich. L. Rev. 325 (1925), points out that there are six types of cases in which the distinction is met: eminent domain, execution upon property, taxation, alienation of property, cases concerning power of legislature over property, and tort liability. The distinction has its greatest bearing in the field of tort.

2. It is difficult to announce a rule as to just where the liability of a municipality commences or where it ceases. *Lynch* v. *North Yakima*, 37 Wash. 657, 661, 80 P. 79 (1905). See *Dillon*, Municipal Corporations, (5th ed. 1911) §1625; *McQuillin*, Municipal Corporations (1913) §2625.

of the categories without first giving due consideration to the question of liability. The court should not use any of the above mentioned devices to evade the responsibility of a municipality, but should treat the situation as an ordinary tort case.[3]

For many years, writers in this field of municipal responsibility have attempted to change the doctrine that government and its agencies are immune from tort liability.[4] This immunity is founded upon ancient concepts: first, there is the maxim in English law that the King can do no wrong; second, there is the danger of multiplicity of suits against the various members composing the municipality; third, no profit accrues to the city from certain functions; fourth, liability would tend to retard the agents of the city in the performance of their duties; fifth, it is better that the individual should suffer loss rather than that the public should suffer inconvenience. These arguments have all been refuted in the light of modern concepts that tort is not only a legal, but a moral obligation.[5] Neither reason nor policy dictates a rule giving municipal corporations immunity from its torts. The tendency now seems to be to hold municipal corporations to stricter accountability, for the municipality must assume responsibility for the position it occupies in society.[6] In view of this diminishing scope of governmental immunity from tort the possibility of airports receiving such benefit is very slight.[7] To counteract such modern advancement in the branch of tort law, some states by statute provide that the municipality shall in no case be liable for injuries occurring in the operation of an airport.[8] This appears unjust and retrogressive.. The most equitable course would be to have the states adopt the policy of the Uniform Airports Act[9] which leaves the determination of lia-

3. In *Boulineaux* v. *City of Knoxville*, 99 S. W. (2d) 557 (Ct. App. Tenn. 1935), plaintiff claimed that injuries sustained by him and the death of plaintiff's intestate were caused by the negligence of the defendants. The court treated the case as an ordinary tort case and submitted the issue of negligence to the jury.

4. Professor Borchard traces the entire doctrine from its inception to its present status. His research is sure to prove of benefit to future enlightened courts. *Borchard*, "Government Responsibility in Tort," 28 Col. L. Rev. 577-607, 735-775 (1928); 34 Yale L. J. 1-45, 129-143, 229-258 (1924); 36 Yale L. J. 1-41, 757-807, 1037-1100 (1926). See also, *Laski*, "The Responsibility of the States in England," 32 Harv. L. Rev. 447 (1919); *Moore*, "Liability for Acts of Public Servants," 23 L. Q. Rev. 12 (1907); "Liability for Acts of Public Servants," 23 L. Q. Rev. 12 (1907).

5. *Doddridge*, cited *supra* note 1, points out that the idea of divine rights of kings has no place in the present law of corporations, that modern ideas dictate that loss be spread over society as much as possible, that thought of suit against a third party is not a very cogent deterrent of the actor. *Harno*, in his article on "Tort Immunity of Municipal Corporations," 4 Ill. L. Q. 28 (1921), states that the doctrine of immunity was first recognized in *Russell* v. *Men of Devon*, 2 T. R. 667; 100 Eng. Repr. 359 (1798). He argues that fear of multiplicity of suits was fear of separate suits against all inhabitants which has lost its force since incorporation, that tort responsibility is never tested by benefit from an act of the tort-feasor.

6. *Price*, "Governmental Liability for Tort in West Virginia," 38 W. Va. Law Q. 101 (1932); *Barrett*, "Distinction between Public and Private Functions in Tort Liability of Municipal Corporations in Oregon," 11 Ore. L. Rev. 123, 133 (1932); *David*, "Municipal Liability in Tort in California," 6 So. Calif. L. Rev. 269, 280 (1933); note, "The Distinction between Governmental and Municipal Functions as Applied in the Law of Torts," 75 U. of Pa. L. Rev. 555, 563 (1927).

7. *Grover*, "The Legal Basis of Municipal Airports," 5 JOURNAL OF AIR LAW 410 (1934); *Fixel*, "The Regulation of Airports," 1 JOURNAL OF AIR LAW 483, 489 (1930). An argument *contra*, *Zollmann*, "Airports," 13 Marq. L. Rev. 97 (1929).

8. *Iowa Code* (1935) c. 303—c. 1, §5903-c. 11; *Laws, No. Dak.* 1931, c. 92 (1929) U. S. Av. R. 479; Texas Statutes (Vernon 1936) art. 1269h, §3; *Wisconsin Laws* 1929, c. 464, §1.

9. 6 JOURNAL OF AIR LAW 589 (1935). This has not as yet been adopted by any state.

bility to the courts rather than to give an absolute immunity by statute. Perhaps the best means of protection to the municipal corporation would be airport liability insurance which should be a prerequisite to the operation of every municipal or county airport.[10]

EUGENE A. BUSCH.*

Negligence—Carriers—Alleged Injury of Passengers in Transit—Duty of Carrier to Warn Passengers of Rough Weather.—[Federal] The question of the liability of air carriers for passengers' injuries received in transit during rough weather arose for the second[1] time in the consolidated cases of *George P. Kimmel* v. *Pennsylvania Airlines and Transport Company; Homer J. Byrd* v. *Pennsylvania Airlines and Transport Company,* decided February 4, 1937, in the District Court of the United States for the District of Columbia. The cases were tried to a jury and verdicts rendered for the defendant. Appeals were taken but had not been perfected by March 25, 1937, according to the Clerk of the Court. Since the court is one of original jurisdiction, the cases were unreported and the court's charge to the jury, which contains the essentials of the cases, is therefore set out here in full:

Cox, J.: * * * .

Now, of course, we all know that we are dealing here with an art that is comparatively new. Men have for ages been traveling on the surface of the earth and on the surface of the water. This new art takes men traveling through the ocean of air that surrounds the earth. The art is still no doubt in its infancy, but it is so far advanced that men are now engaged in the business of transporting passengers through the air for hire and become what we call carriers of passengers, required to serve all alike.

These carriers do not insure the safety of their passengers, but because they are paid for their services and have control of their instrumentalities of transportation in which they carry passengers, they are required to exercise a very high degree of care for the safe transportation of their passengers. Now, the duties of these carriers are defined in some of the instructions which the Court has granted, most of which, I think, have been read to you, but some of which I will read briefly again.

You are instructed that at the time of the injuries complained of by the plaintiffs the defendant was a common carrier of passengers by airplane and that the plaintiffs were passengers in one of these airplanes bound for Cleveland, Ohio; that because of this relationship between the defendant and the plaintiffs, it owed to the plaintiffs a duty to exercise in the operation of the plane through its agents the highest degree of care and prudence commensurate with the practical operation of the plane so as to avoid injuring the plaintiffs. A failure on the part of the agents of the defendant to perform this duty which they owed to their passengers would be negligence on the part of the defendant.

Another instruction granted is as follows: The jury is instructed that if you find that the ship in which the plaintiffs were passengers was in good mechanical condition and handled by a careful and experienced pilot but that the plaintiffs received injuries from a climatical condition which the pilot could not have foreseen, taking into consideration the testimony of the various witnesses and the United States weather reports, all the evidence before you, your verdict must be for the defendant.

The jury is instructed that the pilot of the defendant's plane was only required to exercise such care and skill as is ordinarily possessed by those experienced skillful pilots engaged in the same business or art, and if he

10. 7 So. Calif. L. Rev. 48 (1933); *Grover,* cited *supra* note 7, at 438.

* Northwestern University School of Law.

1. See *Hope* v. *United Air Lines, Inc.,* in 8 JOURNAL OF AIR LAW 132, 139 (1937).

exercised such care and skill in his operation of the plane he was not negligent, although the accident might have been avoided if he had acted in a different manner.

Now, you will note in this connection also that the mere happening of an accident, any kind of an accident, does not prove negligence. Accidents are happening all the time, of various kinds and in various places. The fact that an accident happens does not prove that somebody failed to do his duty and that that failure was the cause of the accident.

So the burden of proof always rests upon the plaintiff or the person who comes making a charge that he has been injured due to negligence, just as it does in this case.

You are instructed that the burden is upon the plaintiffs to show by a preponderance of the evidence that the defendant was negligent and that the negligence of the defendant was the proximate cause of their injuries, and if you find that the plaintiffs have failed to prove facts constituting negligence on the part of the defendant, by a preponderance of the evidence, then your verdict must be for the defendant.

That means that the person who charges another with failure in having done his duty and so having produced harm, has the burden of convincing you that the other person did not do his duty, because we all start out with the presumption that every person has done his duty and that presumption stands until the evidence convinces you to the contrary.

What I have been saying, of course, deals with negligence in general.

Now, here the specific charge of negligence which has been tried before you is not that any action of the defendant pilots in the movement or movements of the plane was the immediate producing cause of the injuries in this case. There is no dispute from the evidence that the immediate producing cause of the accident here was the action of a downdraft of air upon the plane passing through it. This apparently caused the plane to descend rapidly or to be deflected so violently that the plaintiffs were thrown from their seats and injured.

The claim here is that the company's pilot could and ought to have averted the effect of this shake-up of the passengers by warning them, particularly these plaintiffs, so that they could have strapped themselves in their seats before the plane struck the downdraft. That is the real question in the case and the only respect in which you can consider whether the pilot or co-pilot or either of them was negligent; whether the conditions were such preceding the accident as to impose upon them the duty of directing or notifying the passengers to fasten their seat belts.

There is no claim and no evidence that the airplane was not in proper condition or that the pilots did not properly and successfully fly it. Under the practice of the company passengers were required to fasten their seat belts when the plane was taking off or when it was landing. Of course, the likelihood of danger under these circumstances, when the plane was moving on the ground or landing on the ground—danger of a rough shaking up of passengers—was recognized.

It seems also plain from the evidence in the case that passengers can also be bumped about and injured while a plane is in the air as a result of rough or turbulent conditions; but the passengers are not required under ordinary conditions to keep their seat belts fastened after the plane is straightened out on its course in the air.

I suppose this question has arisen in your mind as it has probably arisen in all our minds: Why didn't the airplane company require the passengers to keep on their belts all the time, or at least as much of the time as the company could compel them to keep them on? We do not have to go into the reason for that, however, for whatever the reason may be, the carriers do not require it. No one has charged that the failure to require this is negligence, and we assume that there are reasons for permitting the passengers to do as they please under ordinary and usual flying conditions, so far as keeping their belts fastened or moving about the cabin is concerned. Passengers are not chained down to their seats or anything of that sort in modern airplanes. The passenger goes in there and moves about as he

pleases, and he has a seat belt available to fasten when he wants to, or to make loose when he wants to, without any guidance or direction of the company by any rule or regulation, except when leaving the ground or getting ready to land on the ground.

So, of course, with respect to that part of the situation, passengers must assume as one of the risks or perils of their voyage the risk arising from their belts being unfastened under ordinary and usual flying conditions. But they do not assume the risk for the negligent failure of the carrier to advise them of perils on account of approaching rough or turbulent air which becomes known or indicated to the carrier, or the pilots. The pilots have the means available to warn the passengers of the perils that the pilots expect, and if the passengers know of such a condition they may be in a position to fasten themselves in their seats and thus obtain the protection afforded by reason of their seat belts.

The evidence shows that rough and bumpy weather may at times be encountered without warning. So it is only at times when the pilots themselves, as reasonable men, have warning that rough or dangerous conditions are about to be encountered or likely to be encountered that the duty arises to warn the passengers.

The first question for you to determine, as it appears to me, is whether there was anything in the situation as the plane approached the point of the accident to warn the pilots that rough flying was about to be or was likely to be encountered.

The second question would be whether the pilots had opportunity, if they had such warning, to give the passengers timely warning after such a situation showing the probable danger arose.

Then there would be a third one: whether if timely warning had been given them the injuries would have been averted by the passengers themselves.

Now, you are to consider how the situation actually appeared to the pilot and co-pilot as reasonable men, and skilled pilots as they approached the place of the accident. To do that you have to try to reconstruct the picture there and put yourselves in the place of those pilots.

What were the weather conditions through which they had been traveling? What does the evidence show about that? Of course, you have to try the case by the evidence. Just when did that accident occur and what happened immediately before the accident?

Now, you have to bear in mind the speed of that plane. Planes fly with great speed and great rapidity. They travel two or three times as fast as railroad trains or automobiles. You have to keep in mind, as I have said, the conditions through which they were passing and the degree of care, which the pilots were required to exercise in carrying and transporting passengers. Looking at the situation as reasonable and prudent pilots, was there anything before them or in their course to suggest that rough and turbulent weather likely to injure passengers was about to be or was likely to be encountered?

Now, we know, of course, planes travel rapidly. The passengers as well as the pilots know that. Your question is, how did the condition appear to the pilots? Was there anything that would have required a reasonable pilot to warn the passengers? Did any threatening condition appear in time for a reasonable pilot to warn them of it and for them to act upon it?

If the evidence does not satisfy you on this point, of course, the plaintiff's case would fail. You must be satisfied or convinced by the weight of the evidence that the pilots failed to do their duty.

Did the plane go into a cloud or mist or rain, and if so, were the weather conditions such prior to the accident as to put the pilots on notice of probable rough or dangerous conditions so that they could and should warn the passengers in time for them to fasten their seat belts Now, you have got to determine the situation from the evidence before you and this, of course, requires your careful consideration of all the evidence. I ask you to recall and consider it all and try to reconstruct the picture as it presented itself to the pilots as they approach the point of the accident.

Now, that is going to require, of course, your examination of the evidence. In this connection I will call your attention to the fact that you have two kinds of evidence in the case:

The evidence that would fall in one division that deals with the situation as it actually existed at that time and as the whole situation was presented: the records, reports, the witnesses that were there on the plane all had something to tell you about the situation as the pilots were dealing with it. That is as to what they could know at the time. The test is what a reasonable man of care and prudence, a skilled pilot under those circumstances, ought to have done.

Now, there is another class of witness that were not there at all, experts on both sides. They were not there on the scene. They know nothing about what happened at all because they were not witnesses as to what occurred any more than you were witnesses. They were called as what we call experts, and their purpose and function was to help you to interpret the evidence that is before you. What goes on in the air, in the clouds, and in the operation of the plane, are matters that we are not conversant with, at least most of us are not.

So they called men who have had experience in such business to give their views as to the interpretation that ought to be put upon the evidence as it was presented and as it was submitted to them in the questions asked, so that they could give us some information about things we are not familiar with, just to enable you to analyze and apply and test this evidence in the light of their experience, which they, as it were, loaned to us for the purpose of passing on these questions of fact.

Now, it is your duty, of course, to consider and give weight and regard to all the evidence that has been adduced before you. There is one class of evidence as to which a prayer was read to you that you can occasionally totally discredit. That is covered by a prayer which reads:

If you believe a witness wilfully and deliberately testifies falsely upon a matter about which he could not reasonably be mistaken, you are at liberty to disregard any part or all of the testimony of that witness.

That means a man who deliberately falsifies puts himself in a position where you have a right to discredit him entirely, throw his testimony out, or take it for whatever you might think it is worth. Aside from that, it is the duty of the jury to consider all the testimony that may be produced.

All honest witnesses are to be considered and you have a right to regard and you should regard witnesses as honest until you are convinced to the contrary. You may, of course, consider the interest that any witness has in the matter and the natural tendency of witnesses to see and remember things in a favorable light accordingly as they have or take an interest in one side or the other. You may also bear in mind the opportunity of a witness to see and observe the things that he testifies to, whether he was actually observing at the time, whether he was really paying attention or not, whether he was under a duty to pay attention at the time, whether he had the experience to make him a competent observer, whether his attention was distracted at the time by other things—all those matters you will take into consideration in saying who was in the best position, who was best likely to observe, who inspires you with the most confidence in matters that affect credibility or weight of testimony, and that is to be looked at along with all the circumstances and details that indicate the matters that a witness carefully and particularly observes.

Now, I call your attention to certain other instructions that have been granted. You are instructed the defendant was not a guarantor or insurer of the safety of the plaintiffs during the passage or the trip in question, but that under the law it was only required to exercise the highest degree of care in the management and control of said plane consistent with the practical operation of the same, and if you believe from the evidence in this case that said plane was, at and immediately prior to the time of the happening of the accident in question, being operated and controlled with the highest degree of care consistent with the practical operation of the same, then in such case you should find for the defendant, operation of the plane, of

course, including the giving of the signals that the pilots were required to give if they knew or had reason to believe that rough weather conditions were just ahead.

You are instructed that the plaintiffs assumed the risks necessarily incident to traveling in the air, known as perils of the air, when the plane is being operated with the highest degree of skill and care commensurate with the practical operation of the plane, and if you find from the evidence that the plane at the time it hit a downdraft was being operated with the highest degree of skill and care, commensurate with the practical operation of the plane, but, nevertheless, the plaintiffs were injured, then your verdict must be for the defendant, that, of course, merely indicating that the pilots cannot control the air conditions, cannot control winds and storms, downdrafts, or things of that sort, but the fact that they cannot control those things and that passengers may be injured in those things does not relieve pilots from exercising the duty to avoid the consequences of them, to protect against them to the best of their ability and to take such action as ought to be required of a reasonable pilot under the circumstances whenever he knows or has reason to know or to believe that dangerous conditions are about to be encountered.

The jury is instructed that while the law demands the utmost care for the safety of passengers, it does not require the defendant to exercise all the care, skill and diligence of which the human mind can conceive, nor such as will free the transportation of passengers from all possible perils. That is a simple way of stating that there are dangers in all these lines of transportation, that dangers exist, and that the practical operation of none of these agencies, ships or trains or airplanes, can relieve it of the practical fact that there are dangers in the operation of instrumentalities of such kinds.

The jury is instructed that an unavoidable accident is one that is not occasioned in any degree, either remotely or directly, by the want of such skill or care as the law holds the defendant is bound to exercise, and the defendant cannot be held to be negligent merely because it fails to provide against an accident which it could not reasonably be expected to foresee, and if you find from the evidence in this case that the injuries sustained by the plaintiffs were due to an unavoidable accident, then your verdict must be for the defendant.

So I call attention again to the real point in the case; the duty of these pilots here was to exercise the highest care with respect to matters over which they had control in order to carry the passengers safely to their destination and to use like care to warn the passengers against any unusual or dangerous condition with respect to which the passengers could protect themselves if warned. The primary question that stands throughout this whole case is whether as reasonable men skilled in piloting planes the pilot and co-pilot had warning or had reason to believe that the plane was coming into a place where there was or was likely to be rough or turbulent conditions and that the pilots had notice or warning of such conditions as to which they ought to warn their passengers, in time to give effective warning to the passengers.

There are two or three other matters that I also call to your attention. Of course, if you do not find that the defendant here was guilty of negligence, that ends the case.

If you are satisfied that the defendant through its pilots was guilty of negligence, then you would have another question to consider, and that would be to assess and determine what the damages in the case ought to be.

If you find for the plaintiff your verdict would be in such amount as you consider would fairly compensate for such injury as you found he sustained. That would apply in each case. To determine the amount of damages to be awarded you would be authorized to take into consideration the pain and suffering such as you found the plaintiff sustained or will sustain, expenses such as you found he has incurred or will incur, and any other pecuniary loss which you found he has sustained or will sustain. Damages in a case of this kind are not imposed by way of punishment but are imposed by way of compensation for losses sustained, and in that connection I give you another instruction:

Sympathy for the alleged injuries and disabilities claimed by the plaintiffs, if any, from whatever source they may have come, should have no influence upon you in determining whether or not the defendant is liable, or, if liable, control in any way your verdict. Both liability and damages are matters to be determined by the evidence, and, under the instructions of the Court, prejudices, sympathy or any outside matter should not affect your judgment. In other words, it is your duty to give every question in the case a calm, careful and conscientious consideration, uninfluenced by sympathy or any consideration other than the evidence and the law as given to you in these instructions.

Something was said in some part of the argument about the ability or lack of ability of anybody connected with the case or of any part connected with it to make compensation. That has not anything to do with you. You are just coldly, seriously analyzing the evidence, finding what the truth about it is, and then drawing your verdict, your conclusion as to what is just, what ought to be done in the case; so you will not concern yourself about other points in the matter except to reach a conclusion and verdict based upon the evidence and rendered in accordance with the law.

These are all the matters I had in mind to call to your attention. If there is anything in particular—

MR. DOHERTY (interposing): Mr. Yeatman referred in his argument to contributory negligence. I did not ask you, but—

THE COURT (interposing): I did not give any instruction because there is no evidence, so far as I can see, of contributory negligence, and nobody asked for such instruction.

MR. YEATMAN: Your Honor, I suppose you will instruct the jury there will be a separate verdict in each case.

THE COURT: The jury understand that there are two cases here. You will return a verdict in each case, just as if you were trying them separately; and you understand, of course, you are to select a foreman to report the case. You may take the case now and consider your verdict.

(Thereupon at 11:20 a.m. the jury retired to consider its verdict.)

(At 2:05 p. m. the jury assembled in the court room and, in the presence of the Court and counsel for the plaintiffs and counsel for the defendant, the following occurred:)

THE CLERK OF THE COURT: Mr. Foreman, have the jury agreed upon a verdict?

THE FOREMAN OF THE JURY: Yes, sir.

THE CLERK OF THE COURT: How do you find in the case of *George P. Kimmel against the Pennsylvanit Airlines?*

THE FOREMAN OF THE JURY: We find for the defendant.

THE CLERK OF THE COURT: How do you find in the case of *Homer J. Byrd against the Pennsylvania Airlines?*

THE FOREMAN OF THE JURY: We find for the defendant.

THE CLERK OF THE COURT: Members of the jury, your foreman says that your verdict in each of these cases is for the defendant.

Is that your verdict? So say each and all of you?

(No member of the jury indicated the contrary.)

THE COURT: I would like to say to the jury that the Court appreciates the careful attention you gave to the case.

(Thereupon the instant hearing was concluded.)

DIGESTS

Insurance—Interpretation of "Participating in Aeronautics"—Failure to Call Attention of Court to Controlling Case or Important Provisions in Policy and Effect on Granting of New Trial.—[Missouri] This is an action on an insurance policy for death of plaintiff's intestate while riding in an aeroplane. Body of policy did not cover injury sustained while participating or in consequence of having participated in aeronautics. Rider on insurance policy, which was not at first called to attention of court, covered

injury received while insured was riding as a fare-paying passenger in a licensed plane. From a judgment denying plaintiff's motion for a new trial after a directed verdict for defendant, plaintiff appeals. *Held:* Judgment reversed and cause remanded with directions to grant plaintiff a new trial. *Sulzbacher* v. *Continental Casualty Co.,* 88 F. (2d) 122 (Circuit Court of Appeals, Eighth Circuit, Feb. 18, 1937).

On motion for a new trial the court's attention was first called to the *Gregory* case (78 F. (2d) 522), where the court held that one being transported on an aeroplane as a passenger was not participating in aeronautics; also to the provision in the rider to the policy that insurance covered insured while riding as a fare-paying passenger in a licensed aeroplane. While it is true that generally speaking the court will not on appeal consider a question not presented to the lower court, yet this court, to prevent a miscarriage of justice may notice a plain error. It is apparent that the court would not have granted the motion for a directed verdict had its attention been called to the decision in the *Gregory* case. Under the facts disclosed by the record, it was the duty of the lower court to consider a motion for a new trial on its merits. In the instant case there has been a failure or refusal to exercise the discretion vested in the trial court to consider and to act upon motion for a new trial.

Negligence—Municipal Corporations—Res Ipsa Loquitur.—[Tennesee] In an action by two plaintiffs against City of Knoxville, and another, the declaration avers that City of Knoxville leased an airport to a corporation, which entered into an agreement with one Betty Lund to conduct commercial flights and sightseeing trips; that the injuries to one plaintiff and the death of plaintiff's intestate were caused by the negligence of defendants, due to the fact that aircraft in use was not airworthy and not equipped with emergency or safety belts, which conditions the defendants knew or should have known. Defendants filed pleas of not guilty. On verdict by jury for defendants, the plaintiffs appeal in error. *Held:* The court found no reversible error in the record, and affirmed the judgment. *Boulineaux* v. *City of Knoxville,* 99 S. W. (2d) 557 (Court of Appeals of Tennessee, Eastern Section, Dec. 21, 1935).

The city owed the duty to supervise the operation and detect and prevent operative negligence, but as it was exonerated by the jury from affirmative acts of negligence, it is not liable for injuries to passengers because of pilot's negligent acts which could not reasonably have been foreseen and prevented. There is no proof that it was the duty of the defendants to provide belts or to see that they were provided when the machine was not engaged in stunting. There being no duty resting upon the parties to provide the belts, then the failure to provide them will not be a negligent act. The trial court correctly concluded that these acts of negligence should be withdrawn from the jury. This is not a case for the application of the doctrine of *res ipsa loquitur* for it is a common and not an unusual occurrence for airplanes to stall and fall while in operation, and without the intervention of any act upon the part of the operator. As to the question of whether the plaintiffs assumed the risk of flight, the defendants are not insurers of the safety of the passengers, and are responsible only for their negligence.

Trespass—Servitude—Flight of Aircraft—Rights of Landowner and Aviator.—[Federal] The United States Supreme Court on February 1, 1937, denied the petitions of F. R. Hinman and Nannie Hinman for writs of certiorari to the Circuit Court of Appeals, Ninth Circuit, 84 F. (2d) 755). *F. R. Hinman and Nannie Hinman, Petitioners* v. *Pacific Air Transport; Same* v. *United Air Lines Transport Corporation,* 57 S. Ct. 431 (Feb. 1, 1937).

See note on the cases in 7 JOURNAL OF AIR LAW 624 (1936).

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YOUR WINGS. By Assen Jordanoff. New York and London: Funk & Wagnalls Co., 1937. Pp. lx, 281.

Here is a book of 27 Chapters which deals briefly with the history of flight and simulates a complete course of instruction with the reader as an imaginary pupil. The various steps of instruction are taken up in their logical order and include, besides primary and advanced flight, a very well expressed description of instrument flying, the use of radio, elementary aerodynamics and a presentation of the subjects of aviation engines and aircraft fuels that is readily understandable by the least technically inclined reader.

The outstanding feature of the book is a series of 424 sketches, charts and drawings ably executed, each of which tells its own story and is referred to directly and explained in the text. These drawings of real artistic and instructional value are used profusely with the result that a readily understandable text becomes almost graphic.

This book is recommended, not only for the prospective student and the embryo pilot who is taking his primary instruction but also for the experienced flyer who has accumulated considerable time in the air and who is interested in broadening his knowledge and who, if he is engaged in giving instruction, is constantly on the look-out for an adequate means of presenting such information to his students.

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